THE AMERICAN ARCHITECT AND BUILDING NEWS.

VOL. XIII. Copyright, 1883, JAMES R. OSGOOD & Co., Boston, Mass. No. 374.

FEBRUARY 24, 1883.

Entered at the Post-Office at Boston as second-class matter.

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THE Boston Manufacturers' Mutual Fire Insurance Company has issued a circular written by its President, Mr. Edward Atkinson, again calling attention to the method for protecting city warehouses from fire which was first described in a report published in 1880, and further illustrated in a lecture delivered by Mr. Atkinson not long afterwards. Most of our readers are probably familiar with the main features of the plan, which consists in placing stand-pipes at the corners of the blocks in the business quarter of large towns, with horizontal pipes on the roofs, carried around the block, and fitted with hydrants on each side of each party-wall, so that every building in the block can, by means of power applied at either stand-pipe, be flooded with water from at least two points, and many streams may be directed from the roofs against a fire on the opposite side of any of the surrounding streets. The very simplicity of this plan prevents it from making the impression on the imagination of the casual reader which it does on the mind of the expert, and it is worth while to study more closely the effect which, if carried out, it would have upon the practice of controlling fires in the dry-goods district of New York, where Mr. Atkinson suggests that it might well be first applied. At present, when a fire occurs in that region, or at least in all but the most modern portions of it, the first step is to sound the alarm and summon the engines. While they are threading their way through the immense concourse of trucks and other vehicles which obstruct all the streets in that quarter during the daytime, the fire climbs the hoist-way, or runs up behind the furrings of the front and rear walls, to the upper loft, which is usually filled with empty cases, samples and scraps of all descriptions, and by the time the first engine reaches the ground, the highest story is in a roaring blaze. The next step is to attach the engine-hose to a street hydrant, in which there is now during much of the daytime, according to a recent report of the underwriters, no pressure whatever. To reach the worst part of the fire, therefore, the engine must pump water from the hydrant and throw it to the top of the burning store, which is probably from seventy-five to eighty feet above the street. This is a matter of no small difficulty, and even if the attempt is successful, the stream can only be thrown in fine spray a short distance through the front windows, leaving the rear portion of the structure to burn unmolested until hose can be dragged up through the stairways of the opposite building, or patent ladders can be brought up from some distant station. While all this is going on, the fire is quite at liberty to spread through the other stories, and the water, thrown in continuous streams into the upper windows, with no particular aim, runs in rivers over the floor, soon to soak through and destroy what goods in the lower stories the flames may have spared.

BY the new system the method of procedure would be very different. Instead of dragging hose hither and thither, by connecting any of the stand-pipes the lines on the roof could be immediately filled with water from end to end, and any number of streams directed, not at random into the nearest window, but through skylights or holes cut in the roof, with perfect precision upon the heap of goods, or pile of packing-cases, or elevator-shaft or stairway, that happened to be burning. A two-inch stream of water would make short work of fire where it fell, and all combustion in the upper story being quenched by direct attack, the same process could be extended to the story below, with the greatest possible effect from the use of the smallest possible quantity of water. This mode of dealing with a conflagration is by no means new. Long ago it was acknowledged that fires in city warehouses could be attacked with far greater efficiency from above than from below, and hundreds of party walls are now carried up six feet or so above the roofs on each side, and provided with glazed loop-holes, through which the firemen can see to direct a stream from a hose-nozzle, without being scorched by the heat. The only difficulty in using these protections for their intended purpose lies in the fact that at present it would be almost impossible to get water to them in time to do any good with it, and at best, without the aid of some comprehensive system of pipes like that which Mr. Atkinson proposes, defensive works on the roofs of buildings must be very slow in preparing for action, and comparatively ineffective in operation.

TO the original plan for constructing and arranging the stand and roof pipes, Mr. Atkinson now adds a detail of great importance. Observing the steadiness and reliability of the supply of force available from the public steam-heat and power companies, he proposes that instead of depending upon the tardy and inadequate assistance of the fire-engines for filling the pipes, steam-pumps, supplied with motive force from the great companies, or, if necessary, from special boilers, should be placed in convenient stations, at the rate of about two to each block, under the charge of competent men, who would, at a moment's warning, which might be given, if necessary, by automatic signal, fill the whole system of pipes, ready to be used as the proper officer might direct. To avoid the possibility of failure or deficiency in the city supply, wells might be driven in various places, which would, as experience in the dry-goods district shows, furnish an ample quantity of water without resorting to the Croton mains; and many, if not all, the pumps and pipes which were established for fire service might be utilized at all times for supplying water to the hydraulic elevators which are rapidly multiplying in the district. Notwithstanding the great and obvious value of such a system as this, there must be difficulty in obtaining that unanimity of feeling among property-owners which would secure its adoption, except on a very limited scale, as a means for mutual protection, and Mr. Atkinson suggests that it might be best introduced either by one of the New York steam-supply companies as a branch of their own business, or by a special protective fire-insurance company, which could, by an expenditure of perhaps seventy-five thousand dollars per annum, establish pumps, wells and pipes, and maintain an effective service night and day throughout the dry-goods district, containing not far from five hundred million dollars' worth of property, on which at least a million and a half dollars is paid annually as premiums for insurance. Independent of earnings by supplying water for elevators and other purposes, such a protective insurance company would rely for its profits upon the reduction effected by its safeguards in the risks upon property which it insured. At present, with premiums amounting to one and one-half million, the losses average more than a million dollars a year, these, with the expenses, consuming all the premiums paid. If, then, the new company, retaining the same rates of premium which are now found unremunerative, and are likely to be materially raised before long, could secure control of the insurance business of the district, at the same time reducing by its appliances the risk of loss from fire to the amount of one-tenth, its annual net profits would be one hundred and fifty thousand dollars, after wages and interest on its plant had been paid. How the necessary control of the insurance of the district would be obtained we will not attempt to say, but that the saving in risk from fire by such appliances as Mr. Atkinson describes, and by other precautions which could easily be made obligatory on the insured, would be very much more than one-tenth, no architect needs to be told. In fact, already, under the care of members of our profession, stand-pipes have been erected in front of many of the newer buildings in the dry-goods district, elevator-wells have been enclosed with brick walls and tin-covered doors,

ceilings wired to prevent the fall of the plaster, and other precautions taken which, although much less effective under present circumstances than they would be if combined with an efficient and general protective service, certainly add one-tenth to the security of the structure, and are of value, not only for themselves, but as showing the disposition which has arisen among owners of buildings to second any insurance company which may undertake to initiate a reform.

ONE of the latest orders of the New York Inspector of Buildings, which has caused considerable comment among the general public, directs that the beautiful new Casino Theatre on Broadway shall be furnished forthwith with iron balconies and ladders on both the Broadway and Thirty-ninth Street fronts. The Broadway balconies are to be eighteen feet long, and as one is to be placed at each story they will, with their ladders, form a somewhat striking addition to the design of the façade. According to Mr. Esterbrook's letter, giving the order, a promise had already been made that fire-escapes should be placed on the building, but the fulfilment of the promise being, as he judged, unreasonably delayed, he thought proper himself to provide for the matter, and in order to hasten the execution of his directions he appended to his missive an order to suspend the performances in the theatre until they were complied with. The architects, as well as the proprietor of the theatre, naturally felt that this public action cast a reflection upon the security of their building, which was designed to be exceptionally safe against all possible accident from fire, but it is unnecessary to say that the Inspector is obliged to judge of the need by circumstances as he finds them, and the structure being yet very incomplete, the temporary timbering with which a considerable portion of it is filled adds much to a danger which will probably be inconsiderable when the work is carried out as intended.

A DISCUSSION is going on in Boston in regard to the danger from fire to the occupants of the older college buildings at Cambridge, and quite a panic is reported to exist among the more timid students. It is certain that the most ancient buildings on the ground are very ill-planned for enabling the persons who live in the rooms to escape if the wooden stairways, which form the only means of access to them, should take fire, but they are not very high, and an improvised rope of sheets and blankets would probably serve to conduct the students of the day safely to the ground in case of danger, in much the same way that a similar contrivance used to aid their predecessors in enterprises which did not involve their preservation from death. In fact, the government of the college, relying upon the athletic habits of the undergraduates, is said already to contemplate the introduction of ropes into the rooms in the upper stories, to be attached to the window-sills ready for use, and this idea meets with much commendation from the outside public, as, we doubt not, it does from the students themselves, to many of whom the relief which the ropes will afford from the prosaic mode of going up and down stairs to their rooms will be grateful, even at times when there is no fire to be dreaded; while the facilities gained by the same means for paying unexpected visits to neighbors will be highly appreciated. The college has certainly been fortunate in respect to conflagrations, not a single life having been lost by fire for two hundred years, although the upper portion of several of the buildings has been burned off; and under the very favorable circumstances of constant surveillance, proximity to the city stations, and great subdivision of space, the dormitories are likely to remain substantially uninjured, at least from that cause, for centuries more.

THE inquest into the causes of the fall of the factory chimney at Bradford, England, by which a large number of persons were killed, has resulted in a verdict exonerating the owners of the property from all blame. The failure of the chimney, in the opinion of the jury, was caused by the cutting out of the joints for the purpose of straightening it, although this would not probably have been fatal except for the high wind which prevailed. It seems from the evidence that the chimney was built double, but with a certain want of connection between the outer and inner shells. Not long before the accident serious cracks were observed in the outer casing, and finally this began to bulge out, although the inner shell appeared sound. It was then decided to cut into the shaft, in order to bring back the whole mass to the proper line, and the stone-work was sawed entirely through in two places, about three feet apart. The witnesses believed that upon the withdrawal of the wedges which held the work during the cutting, the weight above, amounting to about seven tons to the square foot, was suddenly brought upon a comparatively small section of the wall, and that the high wind which prevailed afterwards rocked the upper portion of the shaft upon its inadequate bed, crushing and pounding the stone below it, and between the two cuttings, until its resistance was overcome. In support of this theory it was shown that the chimney, instead of being drawn over fifteen inches by the two cuts, each one-half inch in width, which would be the calculated change in position, actually shifted its place three feet, showing that some crushing must have taken place immediately upon the removal of the wedges, and the vibration caused by the wind might easily complete the disintegration.

THE Trustees of the Metropolitan Museum of Art presented at the annual meeting of the members, held a few days ago, a very satisfactory report, showing that the Museum is now not only free from debt, but that the value of its property has been steadily increasing, while its income during the past year was sufficient to meet the current expenses. The Trustees find, however, that the business of the Museum has increased so largely as to require a corresponding increase in the number of persons employed, and twenty-two are now found insufficient to do the work which was done ten years ago by four. To assist the Director of the Museum a Curator has been appointed, — Mr. W. H. Goodyear, — and the Trustees think that before long separate officers, subordinate to the Director, must be assigned to the several departments. The increase of the Library has become a matter of pressing importance, and the schools maintained by the Museum encroach heavily upon its resources, although the Trustees themselves, to save what they could for the Museum, have generously made up a large part of this expense. The building occupied by the Museum is already small for the accommodation of the collections, some of which cannot be shown for want of space to display them. The glass skylight also gives trouble by continual breaking, and needs constant repair. Among the objects of art acquired by the Museum during the year are a medallion of the Assumption by Luca della Robbia, some paintings presented by various persons, and a curiosity in the shape of a landscape by Robert Barrett Browning. Besides these, a small collection of American antiquities has been purchased, and a praiseworthy activity has been shown in obtaining the loan, for exhibition, of works of art belonging to private persons. On the whole, the year has been a useful and successful one, and the steady enlargement of the collection, although not perhaps signalized by any great good fortune, is perhaps the sort of development most to be desired.

THE new process of extraction of coal from mines by means of cartridges of quick-lime has, as it seems to us, a peculiar interest in its relation to the similar processes which are or might be, used in quarrying the softer stones. The lime process has now become well established in several collieries in England and every month adds to the number of persons who appreciate its advantages. These are, as our readers know, the avoidance of the smoke and poisonous gases inseparable from blasting by means of powder; the superior quality of the coal detached, which falls in large pieces, without the waste in dust and fine coal caused by the concussion of a powder explosion; the saving of time, since the miners can work continuously beside a lime blast, instead of retreating in a body to wait until the firing of powder is over, and the smoke has cleared away; and finally, the saving of expense, which amounts to about three per cent of the cost of extraction. The only disadvantage hitherto mentioned in connection with the lime process is the soiling of the coal with the white lime-paste from the cartridge, a circumstance which, although of the smallest possible real consequence, causes a slight depreciation in the salability of the coal; while in some cases, where the passageways in the mine are narrow, the bulk of the bags of lime does something to obstruct them. These objections would not be felt at all in applying the process to the quarrying of stone. There is usually plenty of room in and about a quarry, and the soiling of the stone by a substance so easily washed off as lime would be a trifling matter.

THE EDINBURGH ARCHITECTURAL EXHIBITION.

AN architectural exhibition of great interest has just been held in Edinburgh under the auspices of the Architectural Association of that city, to whom the greatest credit is due for their energy and enterprise in gathering together such an interesting and instructive collection of drawings. The galleries of the Royal Scottish Academy having been placed at their disposal, the Committee found themselves able to accommodate something like one thousand paintings and drawings, which were arranged and classified with considerable skill and care, so that each room in the spacious suite had a distinctive character of its own, while the whole exhibition had a more or less historical element pervading it throughout. It is not too much to say that a more effective or numerous collection of architectural drawings has seldom, if ever, been brought together, and general regret must be expressed that owing to a variety of circumstances the Exhibition could only be kept open for a very limited period. The success of the effort has, however, been most marked, and it is to be hoped it may serve to encourage the Association to further exertions in future years, as, apart from the limited display of architecture at the Royal Academy every summer, there is no architectural exhibition worthy of the name now held in Great Britain.

Following the historical idea, we find the first room full of drawings and paintings relating to old Edinburgh, with several portraits of the architects who have made their city famous. Prominent among the latter are William and Robert Adams, the "Adelphi Adamses" as they were often called in London, and the founders of the style known by their name, and which is at present so much in vogue in art circles. They were the architects of the Register House, the University Building, in Bridge Street, and of Charlotte Square in Edinburgh, all of which bear the unmistakable traces and features of their peculiar phase of Classic.

Then there was Playfair, the man who did more than any one in the way of architecture to earn for Edinburgh the name of "Modern Athens," as his works in the Greek style testify; such as the Royal Institution, in the galleries of which the exhibition was holding, the College of Surgeons, and other works; as also the well-known Donaldson's Hospital, in another style, at the West end of Edinburgh. Hamilton, also the architect of another Greek work, the High School, is here, and Kemp, the author of the famous Scott Monument, while the portraits of James Craig, the designer of the new town of Edinburgh, and of Gillespie Graham, the designer of the well-known Assembly Hall, and David Bryce, the reviver of the modern version of "Old Scotch," make up a list of most remarkable men of whom any capital may be proud.

In and among these portraits are "bits" of old Edinburgh, and drawings of Melrose (by Kemp), Holyrood, Roslin, Kirkstall Abbey (by Roberts R. A.), and various views of characteristic old Scotch churches and castles, with many fine drawings of the works of the men just mentioned. This room at once strikes the key-note of the deeply interesting character of the exhibition, and this getting together the men and their works is quite one of the "happy thoughts" which seem to have occurred to the committee more than once in the progress of their labors, and though necessarily the local interest is perhaps the strongest, still several of these works and their authors have alike a world-wide fame.

In the second room we have drawings and sketches of old work at home and abroad, including three splendid paintings of Venice, by Canaletto. Among the most noticeable contributions are a series of very clever water-color sketches, by R. Phené Spiers, of old buildings in Egypt, Palestine, Belgium and France, executed with that broad, effective touch for which he is so well known. A view of St. Peter's at Rome, by the late David Roberts, R. A., and of a Spanish altar-piece by the late John Phillip, R. A., heightens the pictorial interest of this room, which is more than sustained by some very beautiful paintings of old Greek Temples, by Lady Ruthven, such as "The Temple of Theseus," "The Temple of Jupiter Olympius," Athens, and the "Temple of Minerva," Athens. Among the same class of subjects there are views of the Temple of Jupiter, and "A Corner of the Parthenon," by John Lessels, a well-known Edinburgh architect. While in this classic school we must also notice a design for a "Temple of Victory," by Professor Donaldson, remarkable for its knowledge of classic lore and of a phase of work which has no representatives now. As we look on this work, and another by the late Thomas Hamilton, his "Design for the National Gallery," we feel tempted to ask what has become of the training and knowledge that could produce such works now? The polished, cultivated Greek has vanished before the picturesque Goth, or the vagaries of Queen Anne, and one wonders what we have gained by the change. Certainly, as we may have occasion to remark farther on, the Scotch architects have never done any Gothic at all equal to their Classic, and where one man, such as the late David Bryce, was working in both styles, his Classic buildings in the town, such as the Bank of Scotland and the Scottish Widows' Fund Office, were always better art than his Scotch-Gothic castles in the country.

Passing on to the third or "Great Room," we find it occupied with the works of some of the leading architects of the day. Norman Shaw is represented by "The Whispers" and "Pierrepoint," in Surrey; by his houses in Cadogan Square and his Insurance Office in St. James's Street, London, all well-known examples of his masterly style. Waterhouse sends almost a historical list, from the Assize Courts in Manchester, which first brought him into fame, to the Central Technical Schools, at South Kensington, which are only now rising into being. The list comprises a great variety of work, and includes his Town-Hall at Manchester, the colleges at Cambridge, the chapel at Eaton Hall, the Natural History Museum at Kensington and others; a most interesting series illustrated by water-color drawings executed by himself. One cannot help pondering over the great opportunities given to, and the great amount of work actually done by this clever architect during the last twenty years, equalled in this respect by scarcely another member of the profession in England.

Then the great Gothic men, Street, and Scott, and Burges, are also here in force. The works by Street are his original design for the New Law Courts, shown in a large bird's-eye view; his design for St. Mary's Cathedral, Edinburgh, which Scott gained in the competition; the North Porch of Bristol Cathedral, a perfectly beautiful drawing, from his own hand. A house in Cadogan Square, London, the church at Roddington, and the monument to the late Dean of York, in the Minster, complete a most representative list of the master's works. They are all so well known that description is useless; we feel we are in the presence of a great artist as we stand before these splendid works, hardly knowing which to admire most—the genius of the designer, or the skill of the draughtsman. The exhibition of such works as these ought to be of the greatest value to all students of Gothic architecture. Scott's works comprise the exterior and the interior of his great Cathedral at Edinburgh (St. Mary's), parts of which are also shown by photographs; his competitive design for the Hôtel de Ville, Hamburg, a florid design of German Classic character, and an early work, the Episcopal Church at Leith. The Cathedral is still unfinished, the two western towers of the chapter-house being still in the future, but the general effect of the church is very striking, and will be still more so when the group of the three spires is completed. One cannot help noticing how much more successful Scott has been in introducing features and details of Scottish character in this Cathedral than he was at the Glasgow University, where he seems to have quite misunderstood them altogether, and we would point to the treatment of the clerestory and the great west doorway as notable examples of this. The central spire looks as if it had rather too much entasis—perhaps it will look better when its two western companions are built—and the great east windows come rather too low down to the ground; otherwise the church has great dignity, and was, after all, perhaps the "safest" design in the competition. As a contrast to it we have here Burges's design in the same competition, and though shown in two beautiful water-color drawings—the interior particularly so—it was clearly impossible for a Scotch Cathedral, being utterly out of style and feeling with every thing in the country. Artistic it cannot help being, as all Burges's work is, but inappropriate all the same, without a doubt. But the work which interests most of all in this as well as in the next room — which is also principally devoted to modern architecture — is the Scotch work, as certainly no such complete collection of it has ever been got together before. The London work, through the medium of the professional papers and otherwise is all more or less familiar, but it is otherwise with the bulk of the work done in Scotland, very little of which ever seems to be illustrated. In the place of honor stand the works of the late David Bryce, R. S. A., shown by over a dozen of his best buildings. They naturally divide themselves into two portions, the Classic, and the Gothic or "Old Scotch," and though a master in his treatment of Classic detail, it is by his Scotch castles and by Fettes College, a more Continental version of his favorite "Old Scotch," that his name will always be, in the main, associated. Indeed he may be said to have revived the Scotch Baronial style, for, though it was tried before his day, it was only in a tentative fashion, lacking both the letter and the spirit which Bryce's vigorous mind infused into it. He had an enormous practice; so much so that there is hardly a Scottish county which does not possess some of his works. His country houses became famous and some of the most famous are shown here, generally by water-color drawings, which, by the way, are not always very successful as pictures. It is almost impossible without illustrations to give an idea of such houses as Cortachy Castle, Forfarshire, or Castle Milk, Dumfriesshire; the former with great square tower and entrance courtyard, and the latter with its equally great circular tower and splendidly turreted gables. We feel how closely the old examples must have been studied and how well the spirit of the old work has been caught, and yet somehow there is something lacking. The mullioned windows are not always of the best proportion; the transoms cross them at unhappy points; and the sheets of plate-glass which fill them suggest anything but a Scotch castle. These windows, indeed, seem to have been the artist's weak point; he does not know quite what to do with them, and evidently had not the courage to treat them with lattice glass as Mr. Shaw does in his wonderful manor-houses; but in gables and turrets and roofs he is always effective, and often imparts great dignity to their picturesque grouping, such for instance as the entrance gable at

"Craigends," which is very striking; but immediately again the tone falls away as we come to the windows of the Hall with the rather weak-minded buttresses between them. A great feature with Bryce is also the great terrace staircase on the garden front of his houses, by which access is obtained from the public rooms, raised some height from the ground, to the lawn or park. This, with its wide flights of steps and quaint stone balustrades, is generally most admirably treated and seems to have been studied with great care. Except, perhaps, in the case of Fettes College, where he departed from the true Scotch type of work, he was not so successful as at Langton in Berwickshire, which is more Elizabethan in style. Fettes College, one of his greatest works, in the outskirts of Edinburgh, is rather more French in style, reminding one in its detail a good deal of the Palace of Justice at Rouen and other buildings of that date. It is also a trifle "busy," and the central tower, up to the eaves of its roof is rather low, as the roof itself is somewhat high, but here again the grouping of turret and dormer, gable and chimney is admirable and the detail excellent. The weakest point seems to be the chapel of the college, which surely lacks the necessary dignity we expect to find, and this reminds us that Bryce never seems to have understood ecclesiastical Gothic as he did domestic work. His churches in this style are mostly failures. His Gothic design for Free St. George's Church, never carried out, is chiefly remarkable for a tower with an open-work crown after the manner of St. Giles Cathedral; but, again, he was very strong in Classic; two of his buildings in that style have already been mentioned. The Bank of Scotland is a most artistic production, and admirably fills its picturesque site. The style is treated with a freedom and a refinement which show how thoroughly he understood it. Like Sir Charles Barry, while working away at a certain phase of Gothic he comes back every now and then to surprise us with a wonderful example of Classic, as if after all it were there that his true strength lay.

Of course all this work was not without its influence, and consequently we find other architects treading more or less successfully in the same path. Though the work has not always the vigor of Bryce's, still some of it is very good, and sometimes, from the buildings being on a smaller or less pretentious scale, they catch more easily the spirit of the old work. Among other names we may mention Peddie & Kinnear, J. T. Roehead of Glasgow, John Lessels, MacGibbon & Ross., Wm. Leiper of Glasgow, David Cousin, and so on, all of whom have been working at the revival of the old Scotch style, and with considerable results; but here what we may call the Scotch phase of the Gothic revival seems to have expended its force. When we come to church Gothic the work is not nearly so successful; indeed, the true spirit of ecclesiastical Gothic seems to be quite missed in many of the recent churches. Whether this is to be attributed to Presbyterian influence or not it would be difficult to say; but so it is, and instead of finding a school with a definite aim set before it, we come across churches of all phases of Gothic, and some of no recognized type at all. This is the more surprising, also, in that the old church work of Scotland had such a marked and vigorous character of its own, as witnessed in Leipsic and Glasgow, in Melrose and Dryburgh, in Holyrood and Sweetheart, and in churches, or the remains of them, all over the land. The church architects seem to be striving after Early French, or Early English, or Early Italian, or Early anything but the splendid old Scottish work lying at their very doors, and while they have stayed to study the castle, they seem to have passed the church by on the other side. Perhaps they may have despaired of being able to clothe the simple requirements of Presbyterian worship in the letter or the spirit of the old Catholic times. As it cannot be said to be from lack of funds — some of the newer churches being large and elaborate in their ornamentation — one is almost forced to think it must be either from want of will or from some idea of novelty. A like craving after foreign notions once crept into the revival of English Gothic, and for a time led captive even some of the best men of the school, but, fortunately for the sake of art, it as quickly passed away. Let us hope it may be so with Scottish Gothic, and that ere long we may see a healthy phase of the beautiful style of the country arise out of the present chaos. The bringing together of so much contemporary work affords such a useful opportunity of comparing notes as to the progress being made, that it cannot fail to have a most beneficial effect on all true followers of architecture, the result of which may be confidently looked for in future exhibitions.

If the architecture of the churches is not always that most to be desired, the planning and arrangement are often admirable, testifying to the thought and study given to the problem how best to accommodate a large congregation without sacrificing all architectural effect. The tendency seems to be in the direction of wide naves, with, in some cases, narrow aisles used principally as passages, or in others with transepts with side galleries therein. In either case there is opportunity for considerable architectural display, which in many instances has been taken full advantage of with striking effect. As examples we may mention a church at Greenbank, Greenock, by Mr. Blane, one in Glasgow by Mr. Leiper, another in Glasgow by Mr. Campbell Douglas, while the Free Church at Crieff, by J. J. Stevenson, is a decided advance in the direction advocated, and has a great deal of Scottish feeling and features in its architecture, particularly in the tower, which is perhaps a little too domestic in treatment. A notable exception to the foregoing remarks is also to be found in the churches of Mr. Robert Anderson. As they are principally for the Episcopal church, this may have something to do with it; at all events they form quite a group by themselves, and are designed with great care and study, with considerable purity of style, which is generally in a phase of Early English. The views of St. Vigean's Church, Arbroath, and St. Augustine's Church, Dumbarton, are charmingly drawn, as are also the Episcopal Church, Stirling, and St. John's, Forfar, while the sketches for the restoration of St. Germain's Cathedral, Isle of Man, are most interesting, both as designs and as drawings. The Catholic Apostolic Church, Edinburgh, is a large church in a round-arched style, also by Mr. Anderson, but not nearly such good architecture as his smaller works. While speaking of this architect's works we must not forget to mention his New Medical School of the Edinburgh University. This is a most important building in a free treatment of Classic of Italian character. The broken end toward the meadows is most effectively treated, but the return side to the street is rather flat and wanting in relief. The square tower at the angle of the two fronts is somewhat squat in appearance. Only part of the buildings are as yet carried out, the large campanile which forms such a striking feature in the design being still in the future. The roofs are covered with red, Italian-looking tiles, a most welcome bit of color, while a light-reddish stone is used for shafts, etc., in the windows. The building is very carefully detailed, and contains some very good carving. Here, again, as elsewhere in the exhibition, we are constantly impressed with the idea that the Scotch architects are much more at home in Classic than in Gothic. They do very good Classic indeed, and treat it with a freedom and a character all their own: so different, in fact, to what one finds elsewhere, that it begins to appear quite vernacular. Perhaps this may be a survival of the Greek revival under such artists as Playfair and Hamilton; perhaps it is owing to the splendid building-stone so fitted for the display of Classic mouldings. At all events a capacity for the style seems indigenous, and opportunities for it are seen to crop up quite naturally. Apart from Scott's Monument, one would as soon expect to find a Gothic building in Princess Street or George Street as in Athens. When Bryce had to do a bank, or an insurance-office, or a club, it never seems to have occurred to him to try it in his favorite "Old Scotch," and in like manner, when Anderson does the Medical School or the Conservative Club, his Gothic is left in the church, and he gives us his version of Classic. Thus the Classic tradition has never been suffered to die out. As in Edinburgh, so in Glasgow there are always men who are doing good Classic, whatever their Gothic may be, and in consequence there are plenty of excellent Classic buildings to be seen in both cities. When Glasgow proposed to build herself a new municipal home, she asked for Classic, and here in the exhibition we have the successful answer to her appeal, by a London man, some may say, but by a Scotchman all the same, as Mr. William Young belongs to Paisley. The various elevations are shown, with the original sketch sent in in the preliminary competition. It is interesting to note the progress made in working out the design to that which won the final competition, and Glasgow is to be congratulated on having secured what ought to prove a *hôtel de ville* worthy of her importance. The design is well composed, with considerable variety in the treatment of the different fronts, and a noble tower as the great central feature. It seems carefully studied in detail, also, and the general arrangements are remarkably well planned. So far as the designs have yet been made public, we think Mr. Young has fairly won his honors, and it is to be hoped he may as honorably be enabled to carry out his work in his own way.

Of the arts connected with architecture very little is shown in the exhibition, but what there is is very interesting. In the fourth room we have several drawings of interior decoration, by the firm of Bonnar & Carfraw, slightly given to the blue-green school, perhaps, but artistically and picturesquely treated for all that, and yet not without a certain air of home and comfort as if they would be pleasant rooms to live in. Also, some rooms by Messrs. Whytock & Reid were somewhat more pretentious, but not so good as the others; besides designs for, and drawings of executed work in sideboards, cabinets, chimney-pieces, etc., by various firms who have given much attention to this class of work. We noticed some very artistic furniture designs by Mr. John W. Small, showing study and knowledge of old work in a marked degree.

Stained glass is also represented by contributions from the well-known firm of Ballentine & Son; a group of designs in one frame, both for Renaissance and Gothic work, being particularly worthy of notice. Messrs. Adam & Small also send several creditable designs in this department.

The walls of the fifth room are almost entirely covered with some splendid tapestries, exhibited by Messrs. Whytock & Reid, one panel being a most exquisite piece of work. They are from Arras, Gobelins and Brussels, and contain figure-subjects with borders of fruit and flowers, very gorgeous in color, and of great merit in drawing and composition.

On screens in this room are a number of photographs of old and new buildings at home and abroad, together with a most interesting series of "Sketches in Pencil of Continental Architecture," by Mr. David MacGibbon, the President of the Architectural Association, careful studies of valuable bits of Continental work, evidently the result of a sketching tour. A similar series of sketches by Mr. John Lessels, as well as drawings of old work by the late James Drummond, R. S. A., George Simpson, Ross, Dick and others, are evidence of the study devoted to old examples.

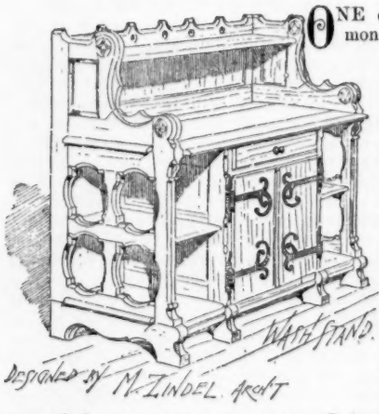
Several models throughout the rooms are well worthy of notice,

such as the Scott Monument, Donaldson's Hospital (the original design), Dalkeith Palace, from a design by the late Mr. William Burn; this and the model of the Scott Monument having been executed by Kemp, the architect of the latter.

The sister art of sculpture is also represented to a limited extent; there being several good statuettes by the Brothers Stevenson, Mr. J. Stuart Burnett and Mr. Rhind; a splendid bust of Bryce, by the late George Macallum, another of Kemp, by the late Handyside Ritchie, and one in marble of William Burn. Mr. D. W. Stevenson also sends the model of his design for the Byron Memorial, which becomes invested with additional interest from the notoriety lately surrounding the design by Belt, as now carried out in London.

No notice of this interesting exhibition would be complete without a few words of commendation to the hanging committee for the skill and knowledge shown in the arrangement of the pictures and drawings. Not only had each room a distinctive character of its own, but great judgment was shown in the grouping of the exhibits together, so as to increase rather than diminish their individual value; while the general scheme throughout heightened the interest as the visitor became more familiar with it as a whole. To the President of the Association, Mr. David MacGibbon, and to the various members of the Committee, Messrs. Bonnar, Ballentine, McLachlan, Blanc, and others, including the indefatigable Secretary, the thanks of the profession are most warmly due for the valuable opportunity afforded to it of becoming acquainted with a great variety of contemporary work not easily accessible, and so enabling some notes to be made of the progress of our art during the last twenty years or so; a progress alike interesting and encouraging, and fraught with good omens for its best interests as a fine art. We feel sure it must also be a source of great gratification to the members of the Architectural Association generally, to know that their efforts have been so highly appreciated, and their new departure rewarded with such an abundant measure of success, as it is also re-assuring to the public to find professional societies of this kind identifying themselves in this marked manner with, and striving so hard to promote the best interests of their work, especially so when we consider the dual character of architecture, and come to know the great value of a higher education in it, both as a constructive and a decorative art, if it is to maintain the time-honored traditions which have won for it the proud designation of the Mother of the Arts.

BATHS AND BUANDERIES.



ONE of the institutions common in European cities, which it would be desirable to transplant to New York and other large American cities, is a *buanderie*, as it is designated in France and Switzerland. This is simply a laundry with baths attached. There should be one in each district of New York, where the housewife or domestics of families of small or moderate income may do laundry-work at no greater expense than the cost, reduced to its minimum, of the necessary conveniences. It is the principle of co-operation applied to the most disagreeable and costly kind of household labor, by which strength, time, and expense are economized. It is, in Europe, a natural sequence of the apartment-house system, where there are no household laundries.

There is a model establishment of this kind, of which the inhabitants are justly proud, in Geneva, on the Rue du Rhone. It consists of a main building, with a broad, handsome portal, reached by two or three steps, and a long wing on each side containing a corridor with small bath-rooms, the left wing being for women, and the right for men. Each bath-room contains a fine metal bath-tub, a chair, a mirror with a shelf under it, and hooks for clothing. In the hall is a small office in which the director of the *buanderie* sits, with piles of snowy linen towels on one hand, and different varieties of toilet and laundry soaps, at cost prices, on the other. The main building is filled with stationary wash-tubs supplied with hot and cold water. There are also drying-closets, as well as accommodations for open-air drying on the roof.

A person wishing to use the apparatus applies at the window of the director, and receives permission to enter the main building. The charge is four cents per hour, which includes a half-hour's use of the drying-closets heated with hot-air, or, if preferred, the linen may be dried at home. One also applies for a bath at the window of the director, depositing eight cents, for which a towel and metal check are rendered. For the additional sum of three cents a warm linen sheet or wrapping-gown of Turkish towelling is supplied, or one can provide one's own towels. After each bath the bath-tub is scrubbed with soap and an ordinary scrubbing-brush, and the room aired.

This establishment in Geneva was built in 1857, partly from motives of philanthropy, by a stock company, at a cost of $30,000. This sum, however, being insufficient to pay the first expenses of furnishing and opening the establishment, a mortgage of $2,000 was added to the cost. For twenty years it paid only three per cent to the stockholders, the rest of the profits being absorbed by the expenses of furnishing, in paying up the mortgage, and in liquidating $10,000 worth of the original stock, so as to reduce the capital to 100,000 francs. It was reorganized four or five years ago, on a new basis, and now pays five per cent (a large interest in Switzerland) to the stockholders. The ground also has quadrupled in value since its erection. The director stated that the profits would have been greater if it had been built in a more solid and durable manner, as a considerable outlay is made every year in repairs and improvements. The director receives a salary of thirty dollars per month, and is assisted in his duties by his wife. He is lodged, his rooms warmed, and his washing done free of expense. Besides this he receives presents to the value of about sixty dollars per year, and four per cent of the net profits of the exploitation.

There are many *buanderies* in Paris, though none, perhaps, so modern and comfortable as the one in Geneva. In Paris the least price for a bath is six cents, but many of the establishments charge ten, and eight if a subscription of six tickets is taken. Two additional cents are charged for towels, the furnishing of which is optional, and five cents for a Turkish wrapper or a linen sheet, ordered beforehand, and brought in warm when the bell is rung.

There are bathing-establishments in Paris which have no laundries connected with them, and from both these and those with laundries baths are sent to the domicile. A light metal bath-tub and water at a specified temperature are delivered for twenty-five cents at any story of houses in the same quarter. The conveyance, drawn by one horse, is a skeleton frame on wheels, supporting a barrel with a bath-tub perched on top. The whole is painted a brilliant yellow or red color, and, as it darts through the crowded streets, gives one the impression of a huge water-spider on a predatory excursion. In case of illness, these baths, promptly rendered at an invalid's bedside, are very convenient. Warm linen, brought in a heated apparatus, is furnished at the same price as in the bath-house.

Very few even of the newest houses in Paris, with the exception of a limited number in the stranger's quarter (Quartier des Champs Elysées, near the Avenue Josephine and the Arc de Triomphe), are furnished with bath-rooms. As to stationary wash-stands, they do not exist in Europe, fortunately for the health of the race.

London possesses a fine *buanderie*, called the St. George's Baths and Wash-Houses, in Davies Street, Berkeley Square, built and presented to the London public by the parish of St. George, Hanover Square. The money was raised by a loan, to be paid off in thirty annual payments. The baths, open from six A. M. to nine P. M. (on Fridays and Saturdays till ten and a half P. M.), are for both sexes, at two prices. In their plainest form there is a little cabinet, with a metal bath-tub having a broad wooden border to sit upon, a wooden bench, mirror, and hooks for clothing. The tariff is four cents for warm, and two for cold baths. Larger bath-rooms, with more conveniences, such as a small carpet, and the added but doubtful luxury of a hair-brush, cost eight cents. These rooms are extremely neat and comfortable.

Saturday afternoon when I visited the establishment the baths were largely patronized by young ladies engaged in commerce (the dry-goods shops in London close at two P. M. on Saturday), and a din, such as is only heard in the vicinity of a school-house when school is dismissed, arose from a swimming-bath filled with schoolboys. The price for the swimming-bath is eight cents on the three first-class days in the week, and four on the three second-class days.

A large and comfortable laundry is situated over the baths. Here are long lines of stationary wash-tubs supplied with cold and boiling water. Opposite each wash-tub is a small drying-closet with hot air laid on. One end of the room is occupied by an ironing-table, sufficiently long to accommodate a number of ironers. There are also skirt and shirt boards, etc. The irons are heated in an adjoining room, only a few steps from the ironing table, on a large stove shaped like a pyramid, with rows of flat-irons in tiers. The tariff for these labor-saving appliances is one and a half cents per hour for the first three, and two cents for each subsequent hour.

The income of this institution covers running expenses, but yields no profit above the salaries of its attendants and the annual cost of repairs and improvements. The cost of the building was $85,000. It is built on leasehold ground at a rent of $1,000 per annum. The ticket-receiver, at the entrance, is paid twenty-one shillings weekly. The director, and his wife, who is also the matron, receive a joint salary of $650 per annum. There is also an engineer and fireman whose weekly wages are respectively forty and twenty-eight shillings. The interest of the loan is raised by a tax on the inhabitants of St. George's parish. The second-class baths do not pay current expenses, the tariff being low to encourage cleanliness in the laboring classes.

Besides the St. George's Baths and Wash-Houses, there are, in London, some forty swimming-baths. To most of these establishments are attached wash-houses and private baths. The Paddington Baths, Queens Road, and Bayswater, are the finest found at the West end.

They cover an acre of ground, and accommodated during 1881, 235,000 bathers. The first, second and third class swimming-baths are floored with white glazed tiles. The first-class bath is 30 yards long and 13 wide, containing 110,000 gallons of pure, clear water changed daily.

The Pompeian Bath is the finest in the metropolis, $25,000 having been spent in its construction. Its dimensions are 24 yards by 9 yards. It is handsomely tiled in patterns, while the dressing-rooms are of dark wood decorated with artistic porcelain plaques.

The Roman baths, many hundred years old, in Strand Lane, are the oldest in London. They are situated in a dark, cold cellar, and the original Roman tiles remain in perfect preservation. This bath is not used for bathing, but its water is served out at two cents per pitcher to people whose passion for the ancient leads them to attach a sentimental value to this water. Near by is a plunge-bath once used by the Earl of Essex, popular among "gentlemen of the Temple," who pay a shilling for a bath in the coolest and oldest bath in London, — with a souvenir attached to it of the handsome Earl, whom the cleverest sovereign of England delighted to honor.

One can hardly dismiss the baths of London without speaking of the Fitzroy Baths near Tottenham-Court Road, the total cost of which was £35,000. There are two swimming-baths, twelve and four cents respectively, and accommodations for seventy-eight washers. In 1881 there were 227,000 bathers and 45,000 washers. The total receipts were £4,500, and the expenses £2,600.

The Rotherhithe Baths, in the Deptford Road, are the newest in London, and very popular, being furnished with the most modern appliances. Last year there were 115,000 bathers and 138,000 *washers*—rather a significant fact.

Teachers of swimming are provided at most of the London baths, as well as cork-belts, life-buoys, etc. The favorite rendezvous of racing swimmers is the bath in Wenlock Road, which affords a swim of fifty-six yards, while the well-known London Swimming Club has its head-quarters in Golden Lane.

In American cities we need public baths at a low price for persons who have no convenience for bathing at home, and, in connection with *buanderies* or laundries, they could be furnished at a trifling charge. Public laundries are desirable, not only for persons who have no laundry accommodations at home, but also for small families who keep but one domestic, and prefer not to have their households disturbed with the steam and confusion incident to "washing-day." Ironing at the laundry would be optional, though desirable, on account of superior facilities. One of the new American machines, for smoothing collars and cuffs, would be much appreciated in this department. It would be desirable in New York City to have a *buanderie* in each ward, built by capitalists willing to accept a low rate of interest on their capital, and who invest it in this manner partly from philanthropic motives. Possibly the receipts should be no larger than would defray the incidental expenses and net three per cent. The price of the baths and use of the apparatus should be no greater than in Paris or Geneva.

The director of the Geneva *buanderie* expressed to me his opinion that the first *buanderie* built in New York should be double in size that of Geneva, as the greater receipts would thus diminish the general expense. He thought a good establishment of this kind might net eight to ten per cent, and that a capital of $100,000 would not be too much to construct one properly.

The great curse of every new convenience or improvement in this country is its dearness. Living is very costly here, and proprietors of new labor-saving dwellings and machines proportionately greedy, while philanthropy occupies itself in many schemes of doubtful benevolence. A public *buanderie* would be a more charitable and Christian undertaking than the investment of large sums in the uncertain fields of missionary labor, to extend a civilization of which the plague-spots only are readily accepted by inferior races.

Who will lead in this good work? Is there no church society like that of St. George's, which, instead of sending its funds to distant lands, in furtherance of schemes of problematical benevolence, to teach an incomprehensible theology to nations incapable of understanding it, would employ its money in a useful work, such as I have described, to assist women in one of their most difficult household tasks, and to furnish facilities to those who would, if they could, obey the injunction of the Master to wash and be clean.

Sarah Gilman Young.

The Sculptor, Geefs. — The Belgian sculptor Guillaume Geefs, who died lately, had, perhaps, during his long life to do with more public monuments than any other man in Europe. He was born in 1806, was the son of a journeyman baker at Antwerp, and won renown at a precociously early age by a statue of Achilles. He was not content, however, with what Antwerp could teach him, but went away to Paris, and worked there for two years in the studio of Ramage. He came back to his native city in 1835, was very soon afterwards appointed professor at the Académie des Beaux-Arts there, the ancient institution which dates from the days of Rubens, and for almost half a century he has been working at sculpture with indefatigable zeal and activity. The squares, streets, and churches of Belgium are crowded with his monuments, very few of which sink below a very high standard of dignity and beauty. Geefs may almost be called a man of genius; and Belgium must be congratulated on the good sense which led her to occupy so workmanlike and vigorous an artist so copiously on the adornment of her cities. The realistic bronze statue of Rubens in the Place Verte at Antwerp is a good example of the style of Geefs — *Exchange.*

ELECTRICAL RAILWAYS IN IRELAND.

THE making of the electrical railway between Portrush and the Giant's Causeway marks an era in the history of locomotion. If the sanguine hopes of its projectors are realized, it will be not less remarkable in the history of Ireland. Nature has left her destitute of those stores of force in the shape of coal-mines, with which England and Scotland have been so plentifully favored; but she has dowered her with an inexhaustible supply of force in the shape of waterfalls, which have run to waste from before the days of Finn McCoul until now. "The costless drainage of a wilderness," which on Canadian rivers Mr. Hussey Vivian found busy converting, almost without the intervention of a human hand, beams of rough-hewn timber into finished doors and windows and all manner of wood-work, has never been harnessed to the service of man in Ireland. The advent of an electrical age promises to change all that, and the Portrush Railway may be the forerunner of the great things which are yet to come, when the Irish have learned to employ the drainage of their hills in driving the machinery of their mills. Turbines planted on the River Bush are to generate the electricity which is to drive the tram-cars from Portrush to the Giant's Causeway. The directors, it is said, are seeking to purchase a waterfall for the same purpose, and it is confidently anticipated that the railway will be worked, as the city of Poona is said to be lighted, by thunderbolts forged by water.

There is something strangely incongruous in the association of the Giant's Causeway, with its mysterious legends, dating far back beyond the gray dawn of history, with the latest development of the applied science of the nineteenth century. That the first electrical tramway outside Berlin should have been started in a remote corner of Ireland is due to the enterprise of the High Sheriff of Antrim, Dr. Traill, whose namesake, Mr. W. A. Traill, has acted as engineer of the line. There have been many electrical railways laid down in various places, but hitherto they have never been constructed by public companies for the purposes of profit. As the Stockton and Darlington Railway is justly regarded as the first of modern railways, although it was preceded by many railways of different kinds, so this Portrush electrical line may fairly claim to be the first of its kind not only in Ireland but in the world. The first electrical locomotive was tried on the Edinburgh and Glasgow Railway forty years ago. It crawled along at a rate of four miles an hour, and was promptly laid aside. It was not till the invention of the modern dynamo-electric machine that the substitution of electricity for steam began to be regarded as feasible. Every one has seen the toy tram-car in the grounds of the Crystal Palace driven by electricity, on which a curious public rides at 6*d.* per head per journey. Similar playthings have been at work at the various electrical exhibitions at St. Petersburg, Munich, Dusseldorf, Brussels, and Berlin. At the electrical exhibition in the Palais d'Industrie, at Paris, the principle was applied in more practical fashion. A tram-car moved by electricity, transmitted from a stationary engine by an overhead cable, brought loads of passengers to the palace from the Place de la Concorde. In a couple of months it conveyed eighty-two thousand passengers to and from the exhibition; but as the fare for the short distance was at the rate of half a crown a mile, it afforded no guide as to the commercial advantages of the new motor. An experiment was made on the Leytonstone tramway some months ago, when a tram-car was fitted up with Faure accumulators and set to work over a mile and a half of private tramway. Its speed was seven miles an hour, but the weight of the car with the accumulators was five and a half tons, and although enthusiastic promoters declared that it would reduce the cost of traction by one-half, the experiment has not been renewed.

A very successful application of the electric motor has been made by a large linen-bleacher in Calvados. The electric locomotive, which generates no smoke, passes up and down the bleaching-fields, winds up the bleached linen, and conveys it to the works. This, however, is a specialty entirely in private hands. The only public tramway worked by electricity is that of the Messrs. Siemens in Berlin. They at first projected an abomination in the shape of an overhead electric railway six miles long; but the Emperor would not allow the Linden to be disfigured, and the projectors contented themselves with a short line a mile and a half long, between Lichterfelde and the Military Academy. The new motor was also employed for a time on the tramway line between Charlottenburg and the Spandauer Bock. The current at first was passed along the rails from a stationary engine, but it is now conveyed by cables slung in mid-air, a frightful addition to the horrors of modern civilization. Although it can be driven at the rate of thirty miles an hour, the regulation pace is not more than ten. It is convenient, simple, and manageable, but it has not been a financial success. On the other side of the Atlantic, Mr. Edison has made a private line, three and one-half miles long, at his works in Menlo Park. He sends the current along the rails, and claims to be able to drive his car at the rate of fifty miles an hour. He estimates the saving at fifty per cent upon the cost of steam; but Mr. Edison is an enthusiast, whose estimates do not always correspond with his results. He has, however, achieved a sufficient measure of success to secure orders for several electric motors, which are to be used on a new

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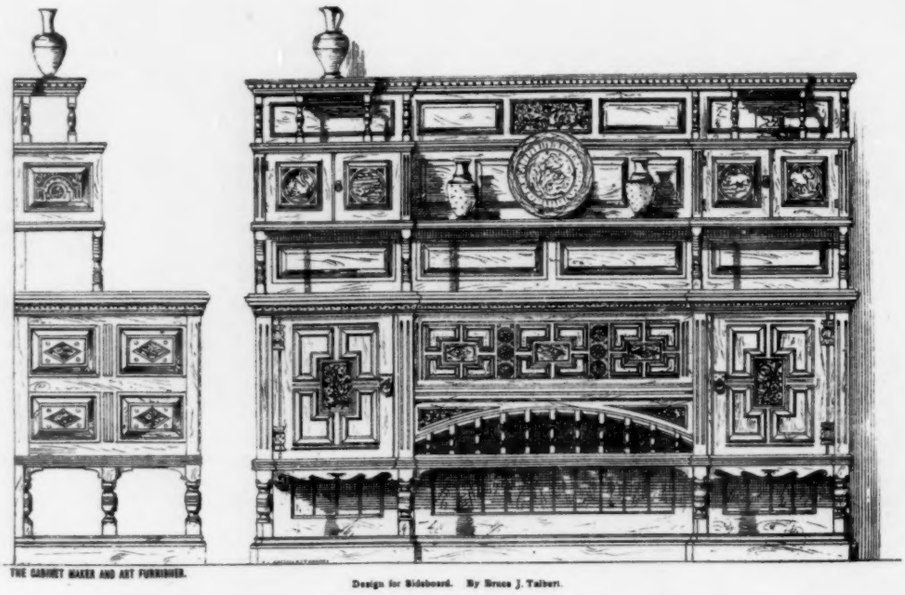
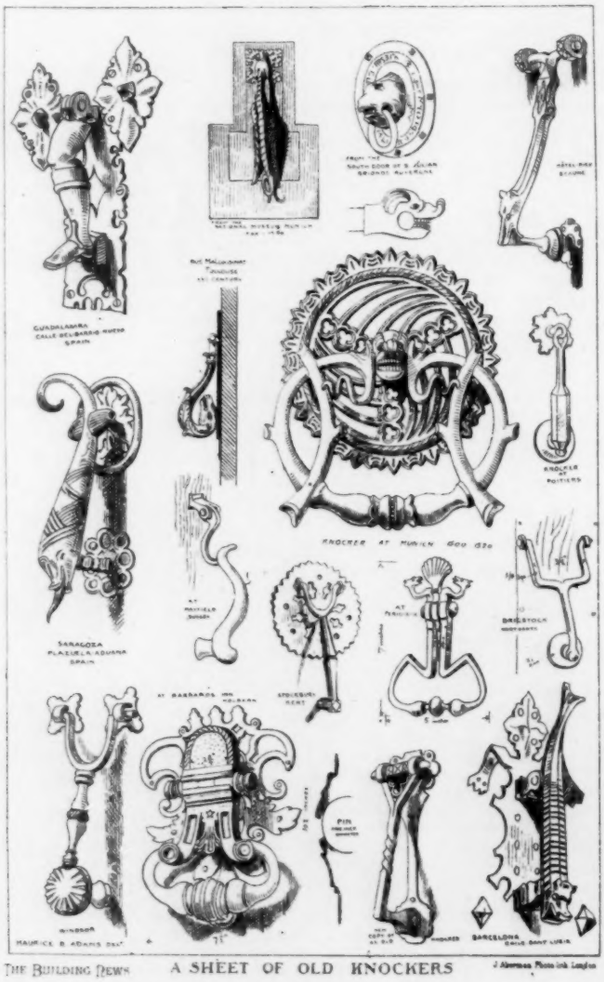


THE CABINET MAKER AND ART FURNISHER.

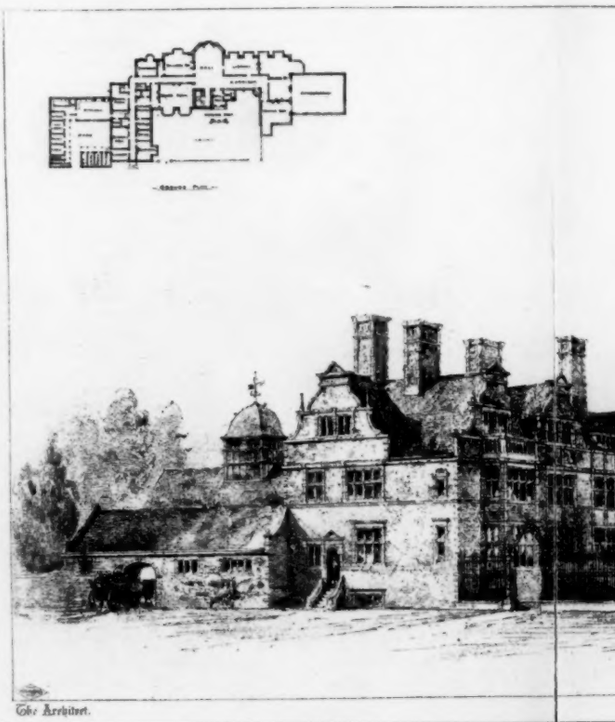
Design for Sideboard. By Bruce J. Talbert.

HOTELS P

LA SEMAINE DES CONSTRUCTEURS.



THE BUILDING NEWS A SHEET OF OLD KNOCKERS



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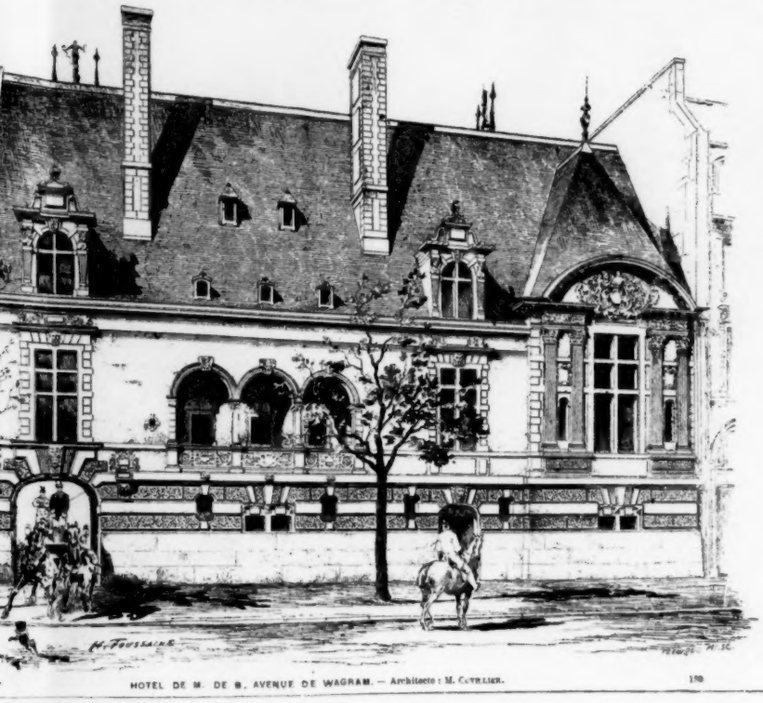
FOREIGN EXCHANGES. XII.

HOTELS PARTICULIERS RÉCEMMENT CONSTRUITS A PARIS



HOTEL DE M. DE B., AVENUE DE WAGRAM. — Architecte : M. CUVELIER.

Moniteur des Architectes

PORTE RENAISSANCE A PERIGUEUX.

Bench Ends
from St. Peters, Northiam.

The British Architect

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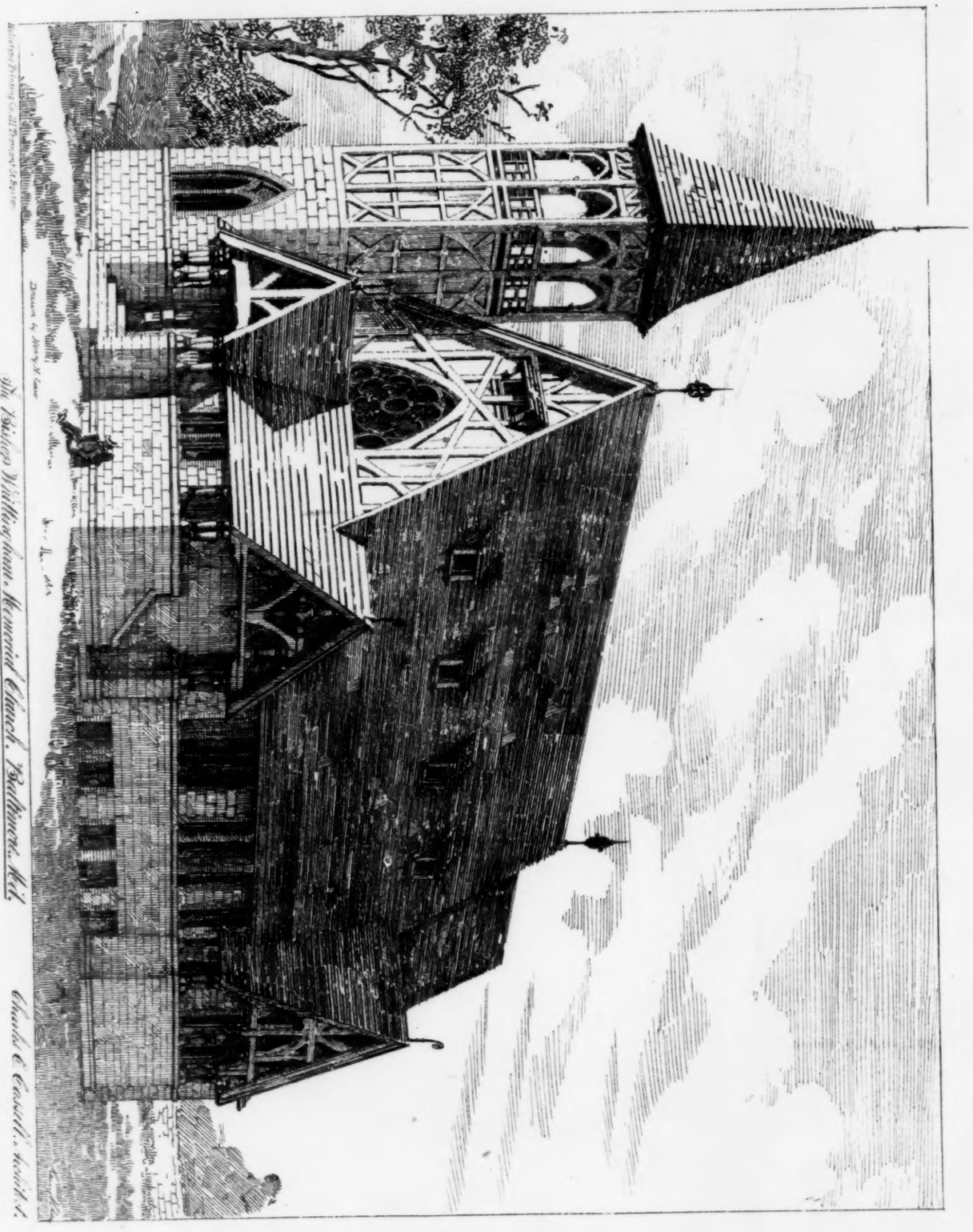

The Bishop Whittingham Memorial Church, Baltimore, Md.

Charles C. Cassell, Archt.

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Farragut House.

Swiss line. An electric railway is projected in Fairmount Park, Philadelphia, and there is some talk of putting up an overhead electric railway in Paris, to run from the Arc de l'Etoile, at the head of the Champs Elysées, to the Place de la Bastille at the other side of the city. These projects, however, are as yet nothing more than projects, and will probably not be carried into execution until it has been proved that electric tramways will pay.

The Portrush tramway is, however, an accomplished fact. It has been built in the old-fashioned way by a company of shareholders, who raised £45,000 in ten-pound shares, to construct six miles of rail.[1] Being worked by electricity, there is no necessity either for the heavy railway needed to support the weight of a steam-engine, or for the granite-paved track required for horse traction. Another great advantage which cannot be secured elsewhere is that the tramway is laid on one side of the road, and from this raised tram-path all ordinary traffic is excluded by a granite curbstone. The gauge is only three feet, and to twice that extent the company monopolize the highway. The cost of construction under these circumstances has only been one-quarter of that incurred on tramways less favorably situated. The steel rails are laid level with a gravelled surface, and parallel to them extends a third iron rail, which is used to conduct the current from the dynamo machine to the cars, contact being effected by means of an electric brush. The whole of the electricity required is supplied from the central station at Portrush. When the turbines fail to yield the requisite power, steam will be employed to generate the electricity. The line will be used not merely as a tramway, but also as a railway for the conveyance of goods and minerals, electricity being in all cases the only motive power employed. According to the sanguine estimate of the promoters, whereas the cost of working the line by horses would be 11*d.* a mile, and by steam 7*d.*, they expect to effect it at a cost of 1*d.* If they do this their success is assured; but the chances are against them. No electric motor has as yet been able to earn a dividend, and it will be an agreeable surprise if the new railway to the Giant's Causeway should prove an exception to the rule. — *Pall Mall Gazette.*

THE ILLUSTRATIONS.

HOTEL DE M. B ——, PARIS, FRANCE. M. CUVILLIER, ARCHITECT.
[From *La Semaine des Constructeurs.*]

THE spirit of the design of this dwelling was derived from a Norman château of the time of Henry II. On the first floor is the bed-chamber of the owner, a bathing-room opening into the loggia shown in the illustration, a dining-room, and on the right a superb picture gallery.

KNOCKERS.
[From the *Building News.*]

BUCHAN HALL, SUSSEX, ENGLAND. MESSRS. ERNEST GEORGE & PETO, ARCHITECTS.
[From the *Architect.*]

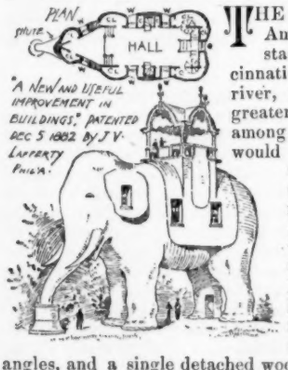
RENAISSANCE DOORWAY AT PERIGUEUX, FRANCE.
[From *Le Moniteur des Architectes.*]

DESIGN FOR A SIDEBOARD, BY MR. B. J. TALBERT.
[From the *Cabinet Maker and Art Furnisher.*]

THE FARRAGUT HOUSE, RYE, N. H. MR. S. J. F. THAYER, ARCHITECT, BOSTON, MASS.

THE BISHOP WHITTINGHAM MEMORIAL CHAPEL, BALTIMORE, MD. MR. CHARLES L. CARSON, ARCHITECT, BALTIMORE, MD.

THE ARCHITECTURE OF AMERICAN CITIES.[2]



THE position and look of some of the American cities is very striking and stately. Cleveland by its lake, Cincinnati with the hills above its great river, St. Louis rising above its yet greater river, would hold no small place among the cities of the elder world. So would the federal capital as seen from the Potomac, if only the hideous, unfinished monument could be got rid of. And it fills one with simple amazement to see the way in which a vast and stately city like Chicago has risen from its ashes. In that great city I could see or hear of nothing older than the fire, save a church-tower which showed the marks of fire at its angles, and a single detached wooden house of an antiquated type. This last suggested that Chicago before the fire was something widely different from Chicago after it. But on the whole the American city which struck me most was Albany. Rising grandly as it does on both sides of the noble Hudson, it suggested to me some of the ancient cities by the Loire. It has the advantage, rather rare in American cities, but shared with Albany by the federal capital, of having one dominant building. The general look of the city carried me so completely into another part of the world that, if any one had come up and told me in French, old or new, that the new capitol was "*le château de Monseigneur le duc d'Albanie,*" I could almost have believed him. This State capitol at Albany — why cannot it have a more rational name, like the state-*house* at Boston? — finally settled, for me at least, a question which I had been turning over in my mind ever since I landed in America. This was: What ought to be the architecture of the United States? That is to say: What should be the architecture of an English people settled in a country in the latitude, though not always in the climate of Italy? Should it be the Gothic of England or the Romanesque of Italy? There seemed much to be said on either side; my own mind was finally fixed by the teaching of experience, by seeing which style really flourished best on American soil. I found the modern churches, of various denominations, certainly better than I had expected. They may quite stand beside the average of modern churches in England, setting aside a few of the very best. All persuasions have a great love of spires, and, if the details are not always what one could wish, the general effect of the spires is often very stately, and they help largely towards the general appearance of the cities in a distant view. But I thought the churches, whose style is most commonly Gothic of one kind or another, decidedly less successful than some of the civil buildings. In some of these, I hardly know how far by choice, how far by happy accident, a style has been hit upon which seemed to me far more at home than any of the reproductions of Gothic. Much of the street architecture of several cities has very successfully caught the leading idea of the true Italian style, the style of Pisa and Lucca, the style of the simple round arch and column, uncorrupted by the vagaries either of the Italian sham Gothic or of the so-called Renaissance. In a large part of the Broadway of New York, the main lines of the style — I speak only of the main lines, without committing myself either to details or to material — seemed to be very happily reproduced. The general effect of many parts of that long street struck me as just what the main street of a great commercial city ought to be; and there are some buildings of the same kind in Chestnut Street, Philadelphia, though there they alternate with other buildings of a very strange kind, whose odd fancies make us turn back to look with real satisfaction on the honest brick of Independence Hall. Some of the banks especially seem to have thought that the stumpier they made their columns, the safer would be their deposits. But it was the capitol at Albany which fully convinced me that the true style for America was the style of Pisa and Lucca. The building has a most successful outline; in its details it is a strange mixture of styles, not so much confounded together as used side by side. There are parts which I cannot at all admire; but there are other parts, those in which the column and round arch are employed, which certainly pleased me as much as any modern building that I have seen for a long time. When I say that the arches of the senate-chamber seemed to me, as far as their general conception goes, worthy to stand at Ragusa, some will understand that I can say no more.

I am almost afraid to add that I thought that some parts of the inside of the city-hall at New York were entitled to some measure of the same praise; for I found it hardly safe to speak of that building. Its name at once drew forth bursts of indignation at the millions of dollars which certain persons had contrived to gain for themselves out of its making. Politically, I felt abashed, as if I had somehow become a champion of corruption. Still, I could not help thinking that the columns and arches, of which alone I was speaking, were as guiltless of any offence as Sir Thomas More's beard. So, to come back to the capitol at Albany, I ventured to make the very smallest kind of artistic criticism on some chandeliers in the corridors which seemed to me too big, as hiding some of the architectural features. My remark did not call forth any artistic defence of the chandeliers; but I was much struck at the remark which it did call forth. Some one or other, I was answered, must have had some corrupt object in making them too big. It is certainly odd that one cannot make the most purely artistic criticism, either for or against anything, without calling up thoughts which have very little to do with artistic matters. Certainly I should be sorry to think that the architectural forms of which I speak carry with them any necessary taint of political corruption; for in these round-arched buildings I see a good hope for a real national American style. The thing seems to have come of itself, and the prospect is all the more hopeful if it has. I should be better pleased to think that the forms which pleased me when my eyes were fresh from Ragusa and Spalato were the work of men who had no thought of Ragusa and Spalato before their eyes.

[1] It is said that the total prime cost will be less than one-half this sum, or about £21,000 for six and a half miles of tramway, and inclusive also of the cost of buildings, rolling-stock, electric plant, engines, law, Parliamentary, and engineering expenses.

[2] From an article by Dr. E. A. Freeman in *Longman's Magazine.*

GAS EXPLOSION AT CINCINNATI. — A three-story brick tenement, No. 50 Wilstach Street, was blown to pieces at midnight on the 15th inst. The house contained 17 persons, most of whom were asleep at the time of the explosion. The house was in danger of being flooded by the high water that is now visiting the city, and two boys stayed up all night to watch the rise of the water, and about one o'clock went into the cellar with a lighted candle to get some boards with which to make a raft, when the explosion took place. The accident was attributed to sewer-gas in the cellar, as the high water does not let the sewerage escape, but this could not have been the cause, as the house had no sewer-connection. It is more than likely that the cellar was filled with coal-gas. The destruction of the building was total and complete, and many adjoining houses were more or less injured. Four persons were killed and several wounded. The loss entailed will approximate $6,000.

RECENT BOOKS ON ART.

THE contents of this volume,[1] with the exception of the last chapter, were originally published in the pages of the *American Art Review*, and then attracted much attention. When now re-read as a whole they seem even more disappointing than at the time of their first issue. The earlier chapters, which deal with the rise of the art in this country, are instructive, and contain much fresh biographical material, which one is glad to have for reference. But our chief interest lies with more recent things — with the modern practice which has grown up during the last dozen years, and has won for our younger men an almost unchallenged position as not only the best living engravers, but the originators of a school which is destined to be followed by foreign workers — of a movement which is fairly to be called a renaissance of the art. To this movement — to its aims, ideals and methods, as well as to the actual products of its originators — Mr. Linton has an unconquerable aversion. A reading of his book, however, does not show that his hostility is founded on any distinct, solid basis of consistent criticism, but rather — though he himself of course does not realize the fact — upon a basis of prejudice, willful narrowness, and life-long habits of seeing and feeling. That he is consciously unjust I do not believe; but that he is actually unjust, not only to sundry workmen, but especially to the new movement as a whole, no reader can deny. His chapters are controversial rather than historical to begin with. They do not formulate his hostile position with distinctness, or conduct his criticisms on any definite plan. His random remarks, now of praise, now of blame, are often acute, suggestive, and interesting to those whose opinions on the matter are already formed; but they will not give a novice in such criticism any clear idea even of Mr. Linton's own side of the controversy. And still less does the author do what every man who assumes to be a "historian," and not a mere special pleader, should feel himself compelled to. He does not even attempt to state with fairness the ideas and arguments of his opponents; indeed, he does not seem to give them credit for having any of a coherent sort. He hardly recognizes the school as such, though this is the most prominent feature of the matter. In all the band of young engravers, who, with their great diversities of talent and of method, have had a common aim in view and a common enthusiasm in the unravelling of new problems, Mr. Linton persists in seeing only an unorganized troop of rash and reckless innovators, loving novelty merely because it is such, and sinking the true interests of their art in the desire to make a sensation. Naturally he does not say this in quite so clear a fashion; but my indictment can, I think, be amply substantiated from the tenor of his later chapters. Not only, moreover, does he implicitly deny the coherence and definiteness of the recent movement in wood-engraving, but he fails to recognize a cognate and equally important fact: that all beginnings on a new road must be experimental; that only through experimental failures or semi-successes can new and true methods be elaborated, and that many things which are not intrinsically perfect may be very valuable as necessary steps toward perfection. The tentative, daring, original, partially unsuccessful efforts of a few years back, Mr. Linton holds up to scorn as the inevitable results of the new aims. Works which their authors themselves have long since condemned, both by words and by the most conclusive evidence of their recent practice, Mr. Linton often judges as though they were still complacently regarded by editors and engravers as indisputable pieces of perfection. Even when he praises the work of some among the "new men" — as notably of Mr. Closson — he does it in a fashion which ignores its identity of aim with the work he reprobates, which twists its excellence into something different, in a vain effort to make *all* excellence agree with his own ideas and theories as to how excellence should be attained. Mr. Linton has certainly himself done admirable engraver's work in his day, but his criticisms upon that work, and the examples which he chooses as exponents of certain qualities which, in spite of other excellences, they do *not* possess, only give us further proof that though a good artist in his fashion, he is a most hot-headed and injudicious critic. The history of wood-engraving in America remains to be written by some one who shall really be a historian, and not a partisan pamphleteer. Meanwhile Mr. Linton's book is indispensable to all who are interested in the controversy and wish the documentary evidence on either side. But the young student had better not read farther than its earlier chapters, unless he wishes his brain to be muddled to no purpose. The volume is valuable to the collector, as it contains moderately good reproductions of much early and unattainable work, and many blank pages at the end, prepared for mounting proofs, an idea which might well be adopted by editors of all similar works. It should also be praised for its strong and suitable binding.

[1] *The History of Wood-Engraving in America*, by W. J. Linton. Boston: Estes & Lauriat.

Mr. Woodberry's book [2] would have had a more appropriate title had it been called a "History of Design on Wood." Fully two-thirds of it — it is a moderate volume of about two hundred and twenty pages — are filled with an account of wood-engraving before the time of Bewick — of wood-engraving, therefore, in the days when the draughtsman was everything, and the engraver nothing but a more or less accurate mechanical workman. But from this point of view, the chapters are both interesting and instructive. They are illustrated with numerous well-known cuts, and with some that are less familiar; or, in a few instances, previously unedited. The chapter on Bewick and his successors is far too scant in comparison, and critically of little value. When more modern days are approached the author becomes hasty and slipshod, and proves himself totally unfitted for his task. Continental schools are not even noticed; even Pannamaker's name going uncited. And when current American work is spoken of we find a writer who, whether or no he has actually taken Mr. Linton for his guide, shows more than Mr. Linton's fragmentariness, narrowness, and avoidance of the real questions at issue, with none of Mr. Linton's clever epigrammatic writing, or acute if often oblique vision; none of the characteristics which make even his most unjust criticisms suggestive, amusing, or exasperating reading for those acquainted with the matter. Mr. Woodberry when he treats of current work, is merely uninformed. His chapter is ignorant and uninstructive, but it is not dangerous like Mr. Linton's. There must be a few men in the country — I could cite five perhaps — who are capable of writing a good commentary on the recent development of wood-engraving in America; at least who know so much about it, and judge it from so impartial a standpoint that they ought to be able to write about it. Why does not one of them attempt the task? It is a lesson which the public needs, and would be a vindication that our engravers deserve after being torn by the talons of Mr. Linton, and vexed by the blindness of Mr. Woodberry.

It should be added that a real history of the art must give some description of the material requirements and technical processes, which so largely define its limits and influence its results; things quite neglected in Mr. Woodberry's book.

[2] *A History of Wood-Engraving*, by George E. Woodberry. New York: Harper & Brothers.

Being by a well-known writer, and claiming to deal with a most interesting subject, Mr. Conway's book [3] will doubtless win many more readers than it deserves; a more disappointing volume it would be hard to find. Not only is it very fragmentary and disjointed in structure, but without any critical worth whatever. It is composed of a gossipy, rambling dissertation on the South Kensington collections, a still more shallow and amateurish chapter on recent art and architecture — chiefly made up of descriptions of two or three London houses — and a third chapter on the "æsthetic" village at Bedford Park; the last-named, at least, appeared originally in the pages of *Harper's Magazine*, and the others are rather below the average of ordinary magazine articles. A man who would write a good book on the South Kensington collections — or on any portion of them, for the field is a very wide one — would deserve well of art students in this country; but Mr. Conway has not done this, and his book is without value save to those who care for the lightest gossip dealing with things of art.

[3] *Travels in South Kensington*, with Notes on Decorative Art and Architecture in England, by Moncure D. Conway. New York: Harper & Brothers.

A laudatory article on this volume [4] appeared recently in these pages, copied from an English journal, so the reader may be supposed familiar with its aim and scope; but it does not seem to me quite to deserve the encomiums of the English critic. More than half of it is occupied with an account of Dr. Dresser's experiences while in the country — how he travelled, what he ate, and whom he saw — and such things have been described a dozen times by far more attractive writers. In spite of his professional career, and his interest as a specialist in the architecture and decoration of the country, his book has a strangely "amateurish" tone. It is fragmentary in arrangement, not over critical in judgment, and ungraphic in description. He does indeed tell us rather more than we had been told before about the architecture of the country; but still he does not tell us much, nor in a very clear way. His justifiable enthusiasm for Japanese decoration, whether in the minor arts or applied to architecture, seems — so far as one can judge from illustrations and from hearsay — to have blinded him as to the rank of Japanese building in its constructive features. Doubtless, as he shows, wooden architecture is the best for this volcanic country, and the most in consonance with the spirit of its people; so one cordially agrees with him when he condemns the efforts of Europeans to introduce their own styles — if styles they may be called — and to induce the

[4] *Japan*: its Architecture, Art, and Art Manufactures, by Christopher Dresser. London: Longmans, Green & Co.

natives to follow in their wake; but when Dr. Dresser seems to rank the Japanese with the great constructive races of the world, we can hardly find his data or agree with his conclusions. As a specimen of his criticism in this direction, I may quote a paragraph on page 14, where he says, speaking of the Temples of Shiba, "Had a Gibbons been employed on the wood-carvings; had the colorist of the Alhambra done his utmost to add to forms, which in themselves are almost perfect, a new charm through the addition of pigments, and were the whole of such details subordinated to fitting places in a vast architectural edifice by the architects of the Parthenon, no more worthy effect could be produced than that of the buildings on which my eyes now rest." The first portion of this sentence is doubtless below the truth; but we can hardly find a ground for comparison, even, between Greek and Japanese building in the strict sense of the word. It is fair to say, however, that with decoration Dr. Dresser is more happily at home than with construction; his remarks on the degree of perfection here attained by Japanese artists, as well as upon the artistic causes of their success, are true and forcible if not especially novel. The most valuable part of the book is to be found in the descriptions of the modes of working, and material processes of Japanese artists. The chapter on ceramics is useful, not as showing how we may decide upon the maker and the age of any given work; but as proving for the benefit of the too-confident amateur, how difficult it is even in Japan, and how impossible for uninstructed foreigners to be certain upon either point. A good idea was to have many of the illustrations — none of which are in color — drawn and engraved by Japanese artists, thus preserving the spirit and touch as well as the mere design of their creations.

I would not have the reader conclude that this is not an interesting and instructive book; but it has been so overpraised in many quarters that disappointment will be apt to result from its inspection. It inspires us not with the idea that Japanese architecture has been adequately described, even in brief; but that it would be a good thing if some more scientific observer, and more systematic and graphic writer than Dr. Dresser would now follow in his wake.

This is not a book[1] *on* art, but what is even more valuable, a book *of* art in the truest sense of the word. Its pages are familiar to most of my readers, it may be supposed, owing to their serial publication in *Harper's Magazine*. But even those who there admired them most will hardly imagine how valuable they are as now collected in a handsome volume, beautifully printed and accompanied by many unillustrated poems besides. There has been to my knowledge no English illustrated book since the days of Blake so wholly original and excellent as this; no book, that is, which is the work of one author and illustrated throughout by a single hand. I do not intend, of course, to put two such different artists into any actual comparison, or to say that Mr. Abbey is a Blake. As Herrick is to the Prophet Job, so is Mr. Abbey to the great imaginative English artist; but to say that the former has shown himself perfectly competent to the task not only of illustrating Herrick in the usual sense of the term, but of interpreting the finest essence of his mind and sense, is high praise none the less. Through every mood of the poet's varied song — its town-bred love of rusticity, its courtly air of simplicity, its delicate pathos, its roystering, tavern gayety, its melancholy musings on time and death — the artist follows with a pencil so sure, so expressive and so sympathetic, so suggestive of all that lies beneath the text no less than of all which is definitely expressed, that we feel almost as though the spirit of Herrick himself had been born again with a different artistic endowment. As art-work proper, apart from its illustrative power, Mr. Abbey's drawing is almost always perfect. His taste is exquisite, and shows itself not only in the great variety of form and treatment he has adopted for his pages, but in his usual avoidance of all mere "decorative" effects in the interest of true pictorial style. The engraving varies in excellence but is always good and often without a fault. Mr. Alfred Parsons, to whom the book is dedicated, has contributed sundry floral designs which serve as head and tail pieces. There is but one fault to find with the get-up of this beautiful volume. The cover is rather trivial in design and far too delicate in color for a book which, when owned, is sure to be constantly handled. Issued among the crowd of illustrated holiday volumes which fill the shops at this season of the year, it should by no means be confounded with their average or even compared with the best among them. It has a high art value of an absolute sort, and should command a constant sale long after its apparent rivals have been lost to sight and memory.

M. G. VAN RENSSELAER.

THE FLOOD AT CINCINNATI.

CINCINNATI has been visited during the past week with a rise in the Ohio River which has reached a height never before known in the history of the city.

The water-works showed a height of 66′ 4″ at five o'clock, A. M., February 15, 1883. The next highest point ever reached was February 18, 1882, 64′ 3″. The river is not considered dangerous until it reaches a height of about 53′. These measurements are above low-water mark at the water-works. The river is now rapidly falling, and by Monday night most of the submerged portions will again be out of the water. Four squares of the heavy business part of the city were under water, reaching nearly to the second story, and the damage will be great to buildings, but to what extent cannot now be stated. The water stopped the engines at the water-works, and the city was left with only four days' supply of water on hand; one pump which throws a stream forty inches in diameter was started on the 16th, however, and so a total water-famine will be avoided.

The Gas-Works were entirely shut off, and so we have the experience of a great city in utter darkness; the centre of the city is, however, more or less lighted with electric-lights, whose works are above high water.

One peculiar accident caused by the flood may be noted: J. V. Nicholai had some four hundred barrels of lime stored in his yard, with a lot of plastering hair stored in an upper story; the water slacked the lime, and the heat set fire to the hair, which in turn set fire to the sheds, which were with great difficulty extinguished by the department. The fire from the above cause was renewed two or three different times.

Of course the flood causes great suffering to a large class of poor people, whose immediate wants are now being relieved by our citizens. All railroads were stopped for a short time. A great number of small frame houses were swept away, entailing a great loss on owners of small property.

C.

ASSYRIAN BAS-RELIEFS AT ROME.

FROM THE STATUE OF CALIGULA.

I have been enabled by special permission to inspect personally the Assyrian bas-reliefs which were casually discovered in the subterranean vaults below the Vatican library in seven cases. They had been given to Pius IX by Signor Giovanni Benni, first dragoman of the French Consulate at Mossul in 1855, and had been altogether forgotten. They are placed in a long gallery of the library of the Vatican, where so many priceless manuscripts are preserved, and are inserted into the wall-spaces beneath the windows. They are altogether sixteen in number, of which two are inscriptions. One of the latter is especially interesting to students of Oriental archæology, inasmuch as it contains words strange to such eminent authorities as Professor Sayce, of Oxford, and Canon Fabiani, of Rome. The former gentleman (who is at present in Tunis and is expected to make some interesting studies at Carthage) visited the Assyrian bas-reliefs in the Vatican a short time ago, when he was on his way to Africa. The Commendatore C. M. Descemet, to whose courtesy and intelligent explanations I am much indebted, during my visit this morning told me that Professor Sayce began to read the larger of the two inscriptions in his (M. Descemet's) presence, and soon remarked that there were in it forms and words unfamiliar to him, and pointing to a hitherto unknown idiom or variety of the Assyrian language. Canon Fabiani is, unfortunately, not well enough at present to visit the Vatican, but tracings of the two inscriptions were submitted to him, and he at once made a remark similar to that of Professor Sayce. The smaller inscription is more legible. Both are cuneiform, but the larger differs in the form of the letters, as well as of the words, from those with which the erudite are familiar. Copies of them, as well as of what may be called the pictorial bas-reliefs, have been sent to the well-known M. Oppert, at Paris, who considers them of high interest.

I was accompanied this morning by an artist, whose painter's eye was immediately struck by the spirit and faithfulness of many of the delineations. There is, among many other instances, the outstretched arm of an archer, who has just shot off his arrow and is grasping his bow, admirable for vigor and truth of modelling. Also, a kneeling camel — a most difficult animal to draw, as all painters know who have tried him — is portrayed to the life.

The first bas-relief we come to on entering the gallery represents the Assyrian divinity Nisroc. The god, who is eagle-headed, bears the symbols of the four elements; he carries a pine cone in one hand to represent fire, a sort of bucket for water in the other, has large wings to indicate the dominion of the air, and the earth is beneath his feet. Another sculpture represents a king adoring the sacred tree, or tree of life, the leaves on which are identical in form with those on a similar tree depicted in the illustrations to Sir Henry Layard's well-known work on Nineveh. Also a group of grooms or servants holding horses bear many points of resemblance to the illustrations in Sir H. Layard's book. For example, the trappings and adornments of the horses are nearly identical in both. There is an interesting group of persons passing a river — presumably the Tigris — on a raft. It consists of two women, a soldier, and the ferryman. All the passengers sit with their faces forward, seen in profile by the spectator, while the ferryman stands behind them and steers with a long pole or oar. Another group seems to represent

[1] *Selections from the Poetry of Robert Herrick*, with drawings by Edwin A. Abbey. New York, Harper and Brothers.

travellers on a journey. The foremost figure carries a sack or bag slung behind him and something like a small chest on his head, while his companion — a female — bears a child astride her shoulders in the exact attitude with which Eastern travellers are familiar at the present day. Both figures are nude. The sculpture in which the kneeling camel occurs represents a field of battle after the fight is over. Dead and wounded lie on the ground, and the camel is about to be laden with their spoils. To the same category of warlike representations belong the archers alluded to above, of whom some are shooting off arrows, while another man holds a huge clypeus or shield, behind cover of which the bowmen take aim, and also the very remarkable bas-relief portraying the siege of a city, with scaling ladders, and a spirited presentment of the killed and wounded being hurled from the battlements. In the costume and armor of the soldiery, and the general conception of methods of warfare, this sculpture singularly reminded me of some of the scenes on the Empress Matilda's famous tapestry at Bayeux. But undoubtedly the superiority of design and perspective is largely on the side of the Assyrian artist. It is noticeable that several of the faces portrayed belong to a high and even beautiful type of humanity — especially fine specimens, one might say, of the Caucasian race — while others show a more Arabian or Semitic type. In fact, M. Descemet considers one of the faces to be distinctively Jewish. — *London Standard.*

NOTES AND CLIPPINGS.

A Co-operative Painting Establishment. — In a lecture in New Haven lately, Hon. Henry C. Robinson of Hartford, gave this account of the house-painting establishment of LeClaire & Co., Paris: When young Jean LeClaire was an apprentice, his master, Traziere, made up his mind that he would adopt the co-operative system. He met with much objection on the part of many business men of France, and even the press; but in one year he was able to give $50 each to the workmen, in addition to their stipulated salaries. His doctrine was laid down in one of his published utterances, in which he said that every workman should have the means to support himself and family, without being a burden to any one. He died in 1872, and was followed to his last resting-place by thousands of workmen and tradesmen. He left a fortune of over $250,000, and was able, to the last year of his business life, to distribute over $10,000 among 600 workmen. The establishment is at present run by a board of ten directors selected from the men employed. The more immediate control of the corporation is in the hands of two of the directors, who are called the managing partners, and who receive a sufficient salary. Current wages are paid to the men, and work is performed at current prices. Connected with the establishment is a mutual benefit association. Each workman, after 20 years of service and at the age of 50, receives a pension of $200 for life, and at his death his widow receives $100 during her life. Whatever money is contributed to the firm by any one of the workmen is allowed an interest of 5 per cent. Thus in addition to the pecuniary advantages, it also stimulates the ambition of the workmen, teaches them the principles of legislation, fits them for the best citizenship, and promotes true manliness.

A Derbyshire Mine. — The proverbial uncertainty of mining adventures has just received a somewhat startling illustration in Derbyshire, a county in which the vicissitudes of mining have on more than one occasion been strikingly exemplified. The Magpie mine, at Sheldon, near Blakewell, is in the Peak district, which yields a large quantity of lead ore, and has been explored from time immemorial. This particular mine has been worked for some hundreds of years with short intervals of rest. In 1869 it was taken in hand by two well-known Sheffield gentlemen, who subsequently formed a limited company to carry on the undertaking. The mine had always been a wet one, however, and the cost of keeping down the water has hitherto swallowed up the profits made. Pumping was commenced in 1870 and continued for two or three years, after which it was resolved to drive an adit in order to effect the drainage of the workings. This level was commenced in 1873 and finished in 1881. It is nearly 2,000 yards long, 7 feet high, 6 feet wide, and cost about £14,000. It keeps the workings dry to a depth of 196 yards, and takes off about 1,400 gallons a minute. During the whole of these expensive operations no dividends have been paid to the shareholders — indeed, only 22 tons of lead ore were raised during the whole of 1881, although more was got in 1882. Patience and perseverance have been rewarded at last, however, for the workings have now struck a vein of blende (yielding zinc ore) five feet in thickness, and of excellent quality. According to the captain of the mine, there are at least 50,000 tons of the blende within the limits of the workings, so that the plucky adventurers have, at last, some prospect of receiving an adequate return for their long-continued and large outlay. — *Ironmonger* (*London, England*).

Head-dress of the Statue on the Capitol. — Jefferson Davis seems to be writing letters for newspaper publication with unaccustomed frequency. One of his latest explains how the Goddess of Liberty on the Capitol at Washington came to have an Indian head-dress instead of the cap of liberty. He writes: "When in the Senate I was a member of the committee appointed to adopt a plan for the extension and improvement of the Capitol. When the plan was adopted and reported the functions of the committee were at an end. Subsequently I was Secretary of War, and when the appropriation was made for the extension of the Capitol, it was by the act put under the charge of the War Department to supervise and direct the execution of the work. To aid in the performance of that duty I appointed Captain M. C. Meigs of the Engineer Corps, superintendent of the construction. Several of the most distinguished American statuaries were invited to accept orders, among them Mr. Hiram Powers, who submitted for the dome of the Capitol, a cartoon to represent America by a colossal female figure, on the head of which was the 'liberty cap.' To this cap I objected because it was among the Romans the badge of an emancipated slave, and as the people of the United States were born freemen, it was held to be inappropriate to us. Mr. Powers yielded to the objection, and designed a head-dress of feathers for the figure. This was accepted. As a question of art I will leave the discussion to the critics who may impugn the good taste of Mr. Powers, merely remarking that the feathers seemed to me, in view of the aboriginal inhabitants, appropriate to a statue typical of America." — *New York Times.*

Paint for Floors. — A paint for floors which economizes the use of oil-colors and varnish is described in the German technical press as having been composed by Herr Mareck. It is remarked that this paint can also be used on wood, stone, etc. For flooring, the following mixture has been found applicable: 2 ½ oz. of good clear joiners' glue is soaked over night in cold water. It is dissolved, and is then added (being constantly stirred) to thickish milk-of-lime heated to boiling point, and prepared from 1 lb. quick-lime. Into boiling lime is poured (the stirring being continued) as much linseed oil as becomes united by means of saponification with the lime, and when the oil no longer mixes there is no more poured in. If there happens to be too much oil added it must be combined by the addition of some fresh lime-paste. For the quantity of lime previously indicated, about half a pound of oil is required. After this white thickish foundation-paint has cooled, a color is added which is not affected by lime, and in case of need the paint is diluted with water, or by the addition of a mixture of lime-water with some linseed oil. For yellowish-brown or brownish-red shades about a fourth part of the entire bulk is added of a brown solution obtained by boiling shellac and borax with water. This mixture is specially adapted for painting floors. The paint should be applied uniformly, and is described as covering the floor most effectually, and uniting with it in a durable manner. But it is remarked that it is not suitable for being used in cases where a room is in constant use, as under such circumstances it would probably have to be renewed in some places every three months. The most durable floor-paint is said to be that composed of linseed-oil varnish, which only requires to be renewed every six or twelve months. It penetrates into the wood and makes it water-resisting; its properties being thus of a nature to compensate for its higher cost in proportion to other compositions used for a similar purpose. Its use is particularly recommended in schools and workrooms, as it lessens dust and facilitates the cleaning of the boards. — *The Builder.*

Dangerous and Unhealthy Industries in France. — The French Government has, on the report of the Minister of Commerce, and in concurrence with the Superior Commission appointed by law, issued six decrees forbidding the employment of children and young women under age, under the following circumstances, and for the specified reasons:—

Manufacture of salicylic acid by means of carbonic acid, on account of the corrosive emanations. Manufacture of celluloid and similar products, on account of the injurious fumes and dangers of explosion, or of burning; and for the last two reasons, in works for fashioning celluloid. Manufacture of chloride of sulphur, on account of the injurious emanations.

It is also forbidden to employ boys under sixteen, and girls under eighteen, for supplying motive power to hand-looms; and the work of young women under age is prohibited in rag works that are not properly ventilated.

Boys of twelve to fourteen, and girls of twelve to sixteen years, may not be employed to draw loads in the public streets. Boys and girls over twelve may draw loads in manufactories, works, shops, and yards, provided it be on level ground, and that the load, including vehicle, do not exceed two hundred-weight; and only boys from fourteen to sixteen years old may draw a load in the streets, provided it do not exceed one hundred-weight.

Children may not be employed in operations in which dust is disengaged, in works where horn, bone, and pearl are worked dry. Nor may they be employed at all in such works when dust is freely disengaged.

Lastly, plumbers and tilers are forbidden to employ children in work executed on the roofs of houses. — *Journal of the Society of Arts.*

Gas-Meters as Spreaders of Fire. — In most buildings designed for multiple tenancy, like great apartment-houses and the capacious office-buildings which comprise so large a part of the business portion of a city, it is customary to provide a separate gas-meter for each room or suite of rooms. These meters are commonly placed in closets and out-of-the-way corners, and are very apt to be surrounded with much combustible matter. The connections of meters with the gas-pipes are usually, if not always, of lead, a metal that is easily fusible, and the solder with which the plates of the meter are joined together yields even more readily to heat. Let a fire break out in a building containing, as many buildings do, a score or more of these fragile fire-feeders, and the hot air sweeping in advance of the fire will quickly melt the lead or solder. The outpouring gas fills the building with the explosive atmosphere which hastens the spread of the flames and keeps up an inexhaustible supply of fuel. Such burning of gas jets, sometimes of great size, are to be seen after almost every city fire, when nothing is left of a building but blackened and broken walls. The gas poured into burning buildings through such openings doubtless helps materially to account for the surprising suddenness with which many great buildings have been swept by flames, and in all cases the outflow of gas must seriously counteract, if it does not altogether thwart, the efforts of the firemen. The remedy for this great evil is not so easy to point out. It is obvious that where a multitude of meters are to be distributed through a building, they should be more securely incased and provided with infusible connections, or some means should be devised whereby the gas-supply shall be automatically shut off whenever the temperature rises so as to imperil the integrity of the meter. There should be also near the outer door and readily accessible to firemen some means by which the connection of the house with the gas-main in the street can be quickly closed. There is clearly an opportunity here for useful and profitable invention. — *The Metal Worker.*

BUILDING INTELLIGENCE.

(Reported for The American Architect and Building News.)

[Although a large portion of the building intelligence is provided by their regular correspondents, the editors greatly desire to receive voluntary information, especially from the smaller and outlying towns.]

BUILDING PATENTS.

[Printed specifications of any patents here mentioned, together with full detail illustrations, may be obtained of the Commissioner of Patents, at Washington, for twenty-five cents.]

271,587. ORNAMENTATION OF BRICK, TILE, ETC. — James C. Anderson, Highland Park, Ill.

271,590. ORNAMENTATION OF BRICK, TILE, ETC. — James C. Anderson, Highland Park, Ill.

271,591. METHOD OF PREVENTING SALTPETRE-EXUDATIONS UPON FACING-BRICK. — James C. Anderson, Highland Park, Ill.

271,595. PIPE-WRENCH. — Seymour A. Bostwick, Chelsea, Mass.

271,644. AUTOMATIC FLUSH-VALVE. — Harvey C. Lowrie, Denver, Col.

271,649-650. DOOR-SPRING. — Ira Moore, New York, N. Y.

271,652. SCREW-CUTTING DIE. — Joseph Müller, Nacogdoches County, Tex.

271,662-663. LOCK. — Solomon P. Stoddard, New York, N. Y.

271,669. AUTOMATIC FIRE-EXTINGUISHER. — Caleb C. Walworth, Boston, Mass.

271,678. SAFETY HOD-ELEVATOR. — Leonard Atwood, New York, N. Y.

271,681. HOISTING-MACHINE. — James Boyd, St. Paul, Minn.

271,687. WATER, GAS OR DRAIN PIPE. — John P. Culver, Tucson, Ariz.

271,696. LEAD SASH-BAR. — Alphonse Friedrick, Brooklyn, N. Y.

271,697. PROCESS OF BUILDING LEAD-SASH FOR GLAZING PURPOSES. — Alphonse Friedrick, Brooklyn, N. Y.

271,702. LATHE-REST. — George O. Griggs, St. Louis, Mo.

271,709. HAMMER. — Henry O. Hooper, Fresno, Cal.

271,716. AIR-COOLING APPARATUS. — Hermann Kropff, New York, N. Y.

271,718. WINDOW-CORNICE. — Edward Kügemann, Chicago, Ill.

271,723. — STEAM-RADIATOR. — H. Macdonald, Detroit, Mich.

271,731. BUSH-HAMMER. — August Nelson, Kent, O.

271,746. CENTERING-GAUGE. — Augustus Sequeira, Hartford, Conn.

271,752. WATER-CLOSET. — Darius Wellington, Boston, Mass.

271,753. TENON AND TURNING CHUCK. — Barton A. Whitsett, Lebanon, Ind.

271,776. PORTABLE BUILDING. — Virgil W. Blanchard, New York, N. Y.

271,796. FIRE-ESCAPE LADDER. — Elmer A. Converse, Monticello, O.

271,892. FIRE-ESCAPE. — Hugh H. Craigie, Stamford, Conn.

271,809. FIRE-ESCAPE. — Richard J. Dearborn, Boston, Mass.

271,814. PAINT-BRUSH PROTECTOR. — Henry Dischinger, Elmore, O.

271,854. ILLUMINATING-ROOF, ETC. — Joshua K. Ingalls, Glenora, N. Y.

271,873. BRICK-MACHINE. — John H. Konefes, Quincy, Ill.

271,875. MACHINERY FOR MOULDING BRICKS AND TILES. — Thos. Le Poidevin, Guernsey, England.

271,881. SAFETY-LIFT. — Moritz Martin, Bitterfeld, Prussia, Germany.

271,901. DETERGENT OR COMPOUND FOR REMOVING PAINT. — Albert Munder, Philadelphia, Pa.

271,905. SASH-HOLDER. — Manning L. Nix and Stephen McClelland, Paris, Tex.

271,915-917. WATER-CLOSET. — Charles F. Pike, Philadelphia, Pa.

271,918. DOOR-LOCK. — Oliver E. Pillard, Cambridgeport, Mass.

271,946. SPRING-HINGE. — Alfred B. Tanner, New Haven, Conn.

271,950. BUILDING-CEMENT. — Jas. E. Trask, Salem, Mass.

271,969. BRUSH. — Isaac Cady Wells, Three-Mile Bay, N. Y.

271,962. LOCK. — Joseph P. White, Savannah, Ga.

271,973. COMMERCIAL PUTTY. — Robert W. Davis, Elmira, N. Y.

271,98[illegible]-981. DOOR-HANGER. — Geo. W. Hay, Syracuse, N. Y.

271,983. NAIL. — William G. Howell, Philadelphia, Pa.

272,007. SAW-HANDLE. — Jas. R. Woodrough, Cincinnati, O.

272,013. FIREPLACE LINING. — James Adair, Sewickley, Pa.

272,020. TRAP. — Joseph Bennor, Philadelphia, Pa.

272,031. BARN-DOOR HANGER AND RAIL-BRACKET. — William Cronk, Havana, N. Y.

272,032-033 INLAID WORK AND PROCESS OF PRODUCING THE SAME. — Wm. C. Edge, Newark, N. J.

272,037. DOOR-LOCK. — William H. Flinn, Nashua, N. H.

272,038. WOOD-CUTTING MACHINE. — James Lorenzo Gage, Chicago, Ill.

272,040. WATER-FAUCET. — John Graham, Chicago, Ill.

272,047. TRAMMEL. — William D. Herschel, Philadelphia, Pa.

272,068. WINDOW-SCREEN. — Andrew W. Lovejoy, Rochester, N. Y.

272,103. FIRE-ESCAPE. — Harriet R. Tracy, New York, N. Y.

272, 25. FIRE-ESCAPE. — John A. Edmonds, Dover, Del.

272,118. SNOW-GUARD FOR ROOFS. — Chas. A. Neuert, Boston, Mass.

272,158. METHOD OF AND APPARATUS FOR VENTILATING BUILDINGS, SHIPS, VESSELS, RAILWAY-CARRIAGES AND THE LIKE. — Thomas Rowan, London, Eng.

272,163. LADDER. — Chas. B. Shaver and Silas C. Schofield, Freeport, Ill.

272,190. LUMBER-EDGING MACHINE. — Henry R. Barnhurst, Erie, Pa.

272,193. PIPE-VISE. — Alfred Beard, Danville, Ill.

272,196. WATER-CLOSET VALVE. — Cornelius Birkery and Henry S. Lord, Hartford, Conn.

272,213. WEATHER-STRIP. — Irvin Coppock, Barclay, Kan.

272,224. BRICK-MAKING MACHINE. — Michael Fitzpatrick, St. Louis, Mo.

272,259. FIRE-ESCAPE. — Ray Howland, Brooklyn, N. Y.

272,274. STOP-CHAMFER PLANE. — Joseph Lee, Garnerville, N. Y.

272,279. HEADED LUMBER-RULE. — Edward T. Lufkin, Cleveland, O.

272,296. CONSTRUCTION OF JAILS, ETC. — Samuel M. McLean, Modesto, Cal.

272,316. SHINGLE-SAWING MACHINE. — Willis J. Perkins, Grand Rapids, Mich.

272,320. BRICK-TONGS. — David Ralston, Troy, N. Y.

272,326. RADIATOR FOR FURNACES. Dwight S. Richardson, Brooklyn, N. Y.

272,336. DOOR-BELL. — Worthington Scranton, New Haven, Conn.

272,383. ILLUMINATING VAULT-COVER OR GRATING-TILE. — Thaddeus Hyatt, New York, N. Y.

272,389. FIRE-ESCAPE. — Charles F. Spencer, Rochester, N. Y.

SUMMARY OF THE WEEK.

Baltimore.

BUILDING PERMITS. — Since our last report seventeen permits have been granted, the more important of which are the following: —

J. F. Obrecht, two-st'y brick stable, in rear of n s Weber St., e of Light St.

Owen McKenna, three-st'y brick building, e s McKim St., between Chase and Eager Sts.

Jacob Timanus, three-st'y brick building, e s Pennsylvania Ave., between Hoffman and Dolphin Sts.

St. Martin's Church, three-st'y brick school-house, e s Fulton St., s of Fayette St.

Wendell Depple, two-st'y brick stable, e s Bond St., between Bank and Eastern Aves.

Winfield C. & Geo. Peters, 2 three-st'y brick buildings, e s State St., between Mulberry and Saratoga Sts.

Chas. Burton, 6 three-st'y brick buildings, w s Rutter St., s of Townsend St.

Boston.

BUILDING PERMITS. — *Brick. — Tremont St., Nos.* 467-469, Ward 16, for Mary S. Knowlton, four-st'y flat dwell. and store, 24′ x 46′; Vinal & Dodge, builders.

Castle St., No. 154, cor. Pearl St., Ward 16, for Henry E. Wright, three-st'y flat manufactory and store, 19′ 6″ and 20′ 6″ x 45′; Chas. E. Day, builder.

Centre St., No. 16, Ward 21, for Louis Prang, three-st'y flat dwell., 23′ 5½″ x 63′ 9″; ell, 15′ 8″ x 26′ 2″; Chas. Chipman, builder.

Centre St., No. 16, Ward 21, for Louis Prang, three-st'y flat dwell.. 23′ 10½″ x 63′ 9″; ell, 15′ 8″ x 26′ 2″; Chas. Chipman, builder.

Wood. — Mills St., near Dale St., Ward 21, for Benj. F. Bean, two-st'y pitch dwell., 20′ x 30′; ell, 14′ x 16′; Benj. F. Bean, builder.

East Eighth St., rear, near W St., Ward 14, for Wm. B. Smith, storage boats, 25′ x 65′; Wm. B. Smith, builder.

Upton Court, near Western Ave., Ward 25, for J. O. Whidden, one-st'y flat dry-house, 20′ x 26′.

Gardner Ave., Ward 21, for John Roessle, storage wagons, 25′ x 60′; Frank Schell, builder.

Brooklyn.

ARMORY. — The Board of Supervisors has adopted a resolution to ask the State to erect an armory at a cost of $50,000, on a site to be given by the county, for the Gatling Battery and for brigade head-quarters.

BUILDING PERMITS. — *Rutledge St.*, n s, 82′ e Bedford Ave., 2 two-st'y brownstone front dwells.: cost, each, about $4,200; owner, R. Taylor, 111 Clymer St.; architect and builder, J. H. Devoe.

Poplar St., n w cor. Poplar Pl., four-st'y brick building, felt and cement deck roof; cost, $47,000; owners, Brooklyn Children's Aid Society, 61 Poplar St.; architect, M. J. Morrill; builders, J. H. Stevenson and J. S. McRae.

Woodbine St., No. 71, three-st'y frame dwell., tin roof; cost, $3,800; owner, Cornelia Snydam, Bushwick Ave., near Jacob St.; architect and builder, F. Marryatt; mason, J. Lombat.

Evergreen Ave., n w cor. Woodbine St., two-and-a half-st'y frame dwell., tin roof; cost, $4,200; owner, Maria Booth, 67 Woodbine St.; architect, etc., same as last.

Adams St., Nos. 14½ *and* 16, s s, 137′ 6″ e Broadway, 2 two-st'y frame tenements, tin roofs; cost, each, $2,500; owner and builder, Chas. Meyer, 51 Varet St.; architect, T. Engelhardt.

Herkimer St., n s, 75 w Ralph Ave., two-st'y frame tenement, gravel roof; cost, $2,500; owner, G. R. Waldron, 1906 Atlantic Ave.

ALTERATIONS. — *Atlantic Ave., Nos.* 139, 141 *and* 143, two-st'y brick extension, etc.; cost, about $3,000; owner, Jos. O'Brien & Co., on premises; architect, T. F. Houghton.

Cincinnati.

FACTORY. — Geo. C. Winchel & Co. are to build a new factory on the corner of Bank and Riddle Sts., 100′ x 150′, five-st'y high; cost, $40,000; Geo. Brink, architect.

THE APPROACHING SEASON. — All the architects' offices seem full of work, and the prospects for a busy and profitable season are apparent to all interested in building. We hear of no labor troubles, and therefore nothing is expected from this source to mar the pleasant picture before us.

BUILDING PERMITS. — Jos. Tenhaudfet, three-st'y brick dwell. on State Ave.; cost, $3,000.

H. Kister, three-st'y brick dwell., Bank St.; cost, $4,000.

Anton Thurn, three-st'y brick dwell.; cost, $4,000.

Jos. C. Harrell, three-st'y brick dwell., 292 West Ninth St.; Chas. Crapsey, architect; cost, $7,000.

Belmont & Overbeck, two-st'y brick building, Jefferson St., near Calhoun St.; cost, $3,500.

J. H. Banning, three-st'y brick dwell., Baymiller St., near Ninth St.; cost, $3,500.

John Jones, two-st'y frame building, Western Ave., near Spring St.; cost, $2,000.

Jas. A. Armstrong, 2 five-st'y brick and stone stores, Third St., near Elm St.; Henry Bevis, architect; cost, $30,000.

Eight permits for repairs; cost, $57,000.

Cleveland.

FINE-ART ACADEMY. — The Academy of Art will erect a building, cor. of Erie and Chestnut Sts., 100′ x 100′, three stories high, to cost $50,000; to be used as an academy, studios, and art-rooms.

BANK. — The Commercial Bank will build an elegant building cor. Bank and Superior Sts. this spring, 100′ front; cost, about $75,000.

THEATRE. — A new theatre will be built this year on the north side of the public square; cost, $100,000; Wick & Sons are the owners; A. Koehler, architect.

HOUSES. — Dwelling-house on Sibley St., for Mr. Hall; cost, $7,500; E. Cass, contractor; Coburn & Barnum, architects.

Dwelling for Frank Aldrich on Sibley St.; cost, $7,500; E. Cass, contractor; Coburn & Barnum, architects.

Detroit.

HOUSES. — Brick dwell., No. 18 Willis Ave.; cost, $5,000; A. C. Varney, architect.

Frame house, Willis Ave.; cost, $3,500; J. D. Baker, contractor.

Frame house, No. 415 Turnbull Ave.; cost, $4,000; Durst Bros., contractors.

Brick dwell., No. 205 East Larned St.; cost, $5,000; A. H. Adams, contractor.

Frame house, No. 164 Locust St.; cost, $2,700; Lyman Riggs, contractor.

MILL. — Addition to mill, Franklin St.; cost, $3,500; Dewey & Abell, contractors.

FACTORIES. — Union Chair Co., brick factory; cost, $18,000; A. C. Varney, architect.

National Iron Works, factory; cost, $10,000; A. C. Varney, architect.

BUILDING PERMITS. — Repairs to Telegraph Block, Griswold St.; cost, $13,000; J. Hess, architect.

New York.

APARTMENT-HOUSE. — For Mr. E. H. Just, a first-class six-st'y apartment-house, 100 feet square, is to be built on the s w cor. of Seventh Ave. and One Hundred and Twenty-second St. The front will be of ornamental brick, and the top floor will contain a restaurant-kitchen. Mr. Mortimer C. Merritt is the architect.

EXTENSION. — Mr. Theodore Moss, 543 Madison Ave., is to have a 40-foot extension added to his residence, which will contain a dining-room and library. The cost will be about $10,000; Messrs. Smith & Kelly are the architects.

RUMORS. — Among some of the important buildings mooted are another united bank building, to be built by the Manhattan and the Merchant's National Bank, Nos. 40 and 42 Wall St., running through to Pine St., with a frontage of 80′ on both streets.

A building, it is also said, will be erected on the Park Theatre site, by Brooks Bros.; and it is pretty well settled that the Mills building will be extended.

Mr. Stokes and others have applied to Mr. Wm. H. Vanderbilt for a lease of the Madison Square Garden property, with the idea of erecting thereon a colossal building, but the matter is as yet immature.

TELEGRAPH OFFICES. — The Western Union Telegraph Co. propose erecting a building st Nos. 14 and 16 Broad St., for the use of the Cable Department. Plans have not yet been drawn.

THEATRE. — Annie L. McCahill has filed a plan for a theatre to be erected at Nos. 443, 445 and 447 Third Ave., and No. 206 East Thirty-first St. The building will have a frontage of 60′ 1″, and a depth of 120′. It will be three stories high, with a brick front. The cost will be $50,000.

BUILDING PERMITS. — *West Forty-seventh St., No.* 465, five-st'y brownstone flat, tin roof; cost, $18,000; owners, architects and builders, Jas. B. Gillie, 538 West Fifty-first St., and Alex. Walker, 447 West Fifty-sixth St.

West Forty-seventh St., No. 236, eight-st'y brick storage warehouse, tin roof; cost, $20,000; owners, Morgan & Bro., 234 West Forty-seventh St.; architect, Jos. M. Dunn.

Seventy-fifth St., s s, 100′ w First Ave., two-st'y brick bakery and stable, tin roof; cost, $9,000; owner, Geo. F. Dooste, 245 East Seventy-fifth St.; architect, Wm. Jose.

Grand St., No. 387, five-st'y brick store, tin roof; cost, $12,000; owners, Adolph and Emanuel Alexander, 387 Grand St.; architect, Julius Boekell.

East Seventy-seventh St., No. 406, four-st'y brick tenement, tin roof; cost, $14,500; owner, John B. Dingeldein, 351 East Seventy-seventh St.; architect, John Brandt.

East Seventy-fifth St., No. 317, four-st'y brick tenement, tin roof; owner, Patrick Ducey, 317 East Seventy-fifth St.; architect, A. T. Wilson.

One Hundred and Thirty-fifth St., s s, 150′ w Eighth Ave., 3 four-st'y brick tenements, tin roofs; cost, each, $15,000; owner, Patrick Whelan, One Hundred and Thirty-eighth St., cor. Southern Boulevard; architect, Frank E. Verder.

One Hundred and Thirty-fourth St., n s, 150′ w Eighth Ave., 2 four-st'y brick tenements, tin roofs; cost, each, $15,000; owner and architect, same as last.

West Thirty-seventh St., No. 453, five-st'y brick tenement, tin roof; cost, $16,000; owner and builder, James McLaughlin, 453 West Thirty-seventh St.; architect, John Seaton.

Fifty-sixth St., s s, 100′ w Second Ave., 3 five-st'y brick tenements, tin roofs; cost, each, $13,000; owner, Jas. Williams, 442 East Fifty-seventh St.; architect, A. B. Ogden.

One Hundred and Fifty-eighth St., s s, 100′ w Courtland Ave.; two-st'y frame dwell., tin roof;

cost, $2,750; owner, Robt. H. Schaufelberger, Courtland Ave., cor. One Hundred and Fifty-sixth St.; architect, Louis Falk; builders, John Diehl and Fred. Schwab.

Morris Ave., n e cor. One Hundred and Fifty-fifth St., four-st'y brick factory, tin roof; cost, $10,000; owner, Mary A. Dunham, East Chester, N. Y.

ALTERATIONS. — *Water St., Nos. 97 and 99*, upper st'y divided into two stories; cost, $8,000; owner, Frederick Robert, 22 West Twenty-sixth St.; architect, H. Edwards Ficken.

Bowery, No. 99, four-st'y brick extension; cost, $7,500; owner, John R. Ackerman, 236 Warren St., Brooklyn; builders, Elward Smith & Co.

Fifth Ave., n w cor. Twentieth St., four-st'y brick and brownstone front extension; also one st'y extension, tin roof; cost, $70,000; lessees, Herter Bros., 18 East Eighteenth St.; architect, Wm. Schickel.

West Tenth St., No. 154, raise attic; and three-st'y brick extension; cost, $4,000; owner, Thos. Parsons, on premises.

Second Ave., s w cor. Seventh St., new flat roof and change partitions on fourth floor; cost, $4,000; owner, Jacob H. Miller, 115 Second Ave.; architect, Jobst Hoffmann.

West Twenty-third St., No. 144, is to be altered from a residence into a store, at an expense of about $10,000, from designs of Messrs. D. & J. Jardine. Mr. Jas. A. Ruthven is the owner.

Philadelphia.

HOUSES.—The outlook for the erection of dwelling-houses during the coming spring is very encouraging. One of the most extensive builders, Mr. John M. Sharp, in addition to the vast number of first-class dwellings he has already built, is about to commence an operation at Twenty-fourth and Master Sts., where he proposes to build one hundred and one (101) houses, to be of brick with brownstone and blue-and-white marble trimmings; total cost of houses to be about $200,000. He also contemplates the erection on the lot at n e cor. of Fifteenth and Mt. Vernon Sts., of thirteen first-class dwells.

Other builders of prominence also have in view extensive operations which will be mentioned hereafter in detail.

BUILDING PERMITS.— *Thirteenth St.*, w s, s of Locust St., 2 three-st'y dwells., 22′ x 82′; Robertson & Bryan, contractors.

Fifth St., s of Lehigh Ave., and e s Reese Street, 5 three-st'y dwells., 16′ x 44′, and 4 two-st'y dwells., 14′ x 32′, and two-st'y stable, 26′ x 30′; Fred Lambrecht, contractor.

South Twentieth St., No. 1012, one-st'y stable, 16′ x 22′; Isaac Graham, contractor.

Chestnut St., No. 1037, three-st'y store, 28′ x 80′; P. H. Somerset, contractor.

Fourth St., Nos. 141 and 143, storage shed, 65′ x 100′; Jno. Lucas & Co., owners.

North Third St., Nos. 710 and 712, two-st'y storehouse, 24′ x 60′; W. H. Cooper, owner.

Jefferson St., s e cor. Mansion Ave., 2 three-st'y dwells., 17′ x 30′; Patrick Farley, owner.

Eleventh St., n w cor. Race St., five-st'y factory and store building, 66′ x 110′; Kister & Owen, contractors.

Jefferson St., s w s, between Mansion Ave. and Hamilton St., 3 three-st'y dwells., 17′ x 30′; Alex. McCormick, owner.

Mervine St., w s, n of Somerville St., 2 two-st'y dwells., 15′ x 40′; David Murtha, owner.

North Twelfth St., No. 1511, fourth-st'y addition to dwell., 15′ x 28′; P. H. Somerset.

Jasper St., No. 2212, three-st'y warehouse, 18′ x 36′; Thos. Neeley, owner.

Twenty-second St., cor. Stewart St., two-st'y foundry, 40′ x 120′; Jas. B. Doyle, contractor.

Juniper St., n of Reed St., two-st'y carriage-house, 20′ x 20′; J. H. Lingo, contractor.

Ringgold St., s from Parrish St., 6 two-st'y dwells., two 16′ x 38′, and four 14′ x 38′; Jas. Beatty & Son, contractors.

Pemberton St., No. 634, two-st'y shot-factory, 19′ x 50′; Stephen P. Rush, contractor.

St. Louis.

BUILDING PERMITS.—A. Nedderhut, two-st'y brick warehouse; cost, $2,500; sub-let.

John Barry, two-st'y brick store and dwell.; cost, $3,600; Paulus & Wiedemueller, contractors.

F. W. Gaertner, two-st'y brick dwell.; cost, $2,900; Louis Yaeger, contractor.

Felix Goldhuhle, two-st'y brick tenement; cost, $3,000; Schaper, architect; Joseph Schuster, contractor.

Gerard B. Allen, three-st'y brick factory; cost, $15,000; Samuel Robbins, contractor.

Gerard B. Allen, one-st'y brick factory; cost, $7,000; Samuel Robbins, contractor.

B. W. Alexander, three-st'y brick store; cost; $20,000; Geo. I. Barnett, architect; sub-let.

Tutt & Louderman, five-st'y brick store; cost, $133,600; Major Lee, architect; Weber & Vonesdren, contractors.

R. B. Sheridan, two-st'y brick dwells.; cost, $6,500; Thos. Gugerty, contractor.

Louis Obert, two-st'y brick ice-manufactory; cost, $10,000; Hermann & Schumacher, contractors.

Toledo, O.

The recent severe weather has put a temporary quietus on building matters in this latitude. The outlook for coming season is simply fair, not over-promising.

It is understood that plans are being prepared in Chicago by the architect for Mutual Life Insurance Co., of Hartford, who own the Hall Block property, for a three-st'y brick and stone building, to occupy the site of rest of Hall Block, being about 18′ on St. Clair St., by 120′ on Jefferson St.; the building to be for wholesale stores.

ROLLING-MILL.—The building for the Licking Rolling mill, to be established here, is under way and is located in East Toledo. It will be a wooden structure, heavy trussed roof, on large oaken posts, and being open at sides. It will cover an area of about 100′ x 362′; the work is being done by Cramer & Co., at a cost of about $12,000; there will be boiler-shops, foundry and machine-shop, offices, etc., costing $8,000 or $10,000 additional, which it is expected will be undertaken in early spring.

Washington.

HOUSES. — Messrs. Gray & Page have just given out the contract for building a house for Lieutenant C. J. Train, on Connecticut Ave., between Q and R Sts., at a cost of $8,500; Burdett being the builder. The house will have a frontage of 25 feet; it will be three stories high.

On N St., between Nineteenth and Twentieth Sts., n w, a house is being built for Miss Dayton, from designs by Mr. Carl Pfeiffer, architect, New York. The house will be three stories high. Messrs. Gray & Page are superintending the building.

BUILDING PERMITS issued since last report: —

Three-st'y brick dwell., 49′ x 70′, is to be built on cor. of Connecticut and Rhode Island Aves., for D. R. McKee, at a cost of $22,000; Gray & Page are the architects, and W. C. Morrison is the contractor.

2 three-st'y brick dwells., 32′ x 36′, to be built on M St., near Twenty-second St., n w, for John Savoy; cost, $5,000.

Two-st'y brick dwell., 22′ x 58′, to be built on A St., s e, for Bernard Kerman; cost, $2,500.

Two-st'y brick, 16′ x 48′, to be built on North Carolina Ave., s e, for I. G. Kimble; cost, $2,600; Holtzclan & Hepburn, builders.

Extension of the Portland Flat, 36′ x 110′, six stories high, at the intersection of Vermont Ave. and Fourteenth St., n w; cost, $72,000; Cluss & Shultz are the architects.

Two-st'y brick, 16′ x 32′, to be built on New Jersey Ave., n w, for Patrick Dillon; cost, $2,200; C. A. Didden, architect.

2 two-st'y and basement brick dwells., 16′ x 32′, for R. G. Campbell; cost, $5,000; to be built on R St., n w; Jno. G. Meyers, architect, and Jno. F. Comgan, builder.

2 two-st'y brick dwells., 16′ x 32′, to be built on I St., s, for Henry F. Eaton; cost, $2,500; Henry Eaton, builder.

10 two-st'y brick dwells., 12′ 6″ x 32′, to be built on n w cor. Tenth and U Sts., for A. McIntosh & Co.; cost, $7,000.

3 two-st'y brick dwells., 16′ x 38′, to be built on A St., n e, for D. B. Groff; cost, $6,000.

2 two-st'y and basement brick dwells., to be built on Penn. Ave., s e, 25′ x 32′, for John E. Herril; cost, $7,000; Dessez & Co., architects.

General Notes.

ALBANY, N. Y.—It is said that Mr. R. W. Gibson, of this city, and Mr. H. H. Richardson, of Brookline, Mass., are the competing architects for the new cathedral, which it is proposed to build on Swan St., at a cost of over $100,000.

Governor Cleveland has signed the bill appropriating $35,000 for the new city-hall.

ALTOONA, PA.—Mr. J. Schenck will build an opera-house to cost $65,000.

ATTOL, MASS. — A. F. Tyler is making active preparations for the foundation of his new steam mill, on Main Street, and will put up the new building as soon as the foundation is ready.

ATLANTA, GA.—Tenement-house for Fulton County Cotton Mills, brick, two-st'y, 40′ x 70′; cost, $6,500; J. Moser & Lind, architects.

Additions to residence of Mr. Marsh, consisting of wing, two-st'y, brick; cost, about $5,000.

Two-st'y brick half-timbered stable, 25′ x 45′, for Capt. Henry Jackson; cost, $3,000; J. Moser & Lind, architects.

ATTLEBORO', MASS.—Gideon Horton is to build a new block here.

BEVERLY, MASS. — A house is now building for Mr. Thos. E. Proctor, from plans of Messrs. Hartwell & Richardson, of Boston; Joseph H. Ober, builder.

BRIDGEPORT, CONN. — A large New Hampshire and Connecticut company has purchased a fine tract of land on the southwestern extremity bordering on Cedar Creek, and will, within six months, erect large iron-works on the same.

BRYN MAWR, PA. — Marshall Tevis, of Haverford College, has purchased the quarter-acre of ground adjoining his premises, and will shortly build upon it.

Workmen have begun the erection of a brick building for the Tradesmen's National Bank, of Conshohocken.

Several thousand perches of stone will be required for the new Catholic church of Villa Nova. William Hayden, of Bryn Mawr, has the contract for furnishing them.

PROPOSALS.

STEAM PROPELLER FOR THE QUARTERMASTER'S DEPARTMENT.

[At New York, N. Y.]

DEPOT QUARTERMASTER'S OFFICE, CORNER HOUSTON AND GREENE STS., NEW YORK CITY, February 5, 1883.

Sealed proposals, in triplicate, with a copy of this advertisement attached to each, are invited, and will be received at this office **until 12 M., March 7, 1883,** at which time they will be opened in the presence of bidders, for the construction of a steam propeller for the United States Quartermaster's Department, for service at Fort Monroe, Virginia. Bids are invited to be made for the vessel complete; also for that portion embraced in specifications No. 1, or that in No. 2, or that in No. 3, only, or those portions in any two of them. Plans and specifications of the same, together with all other necessary information, will be furnished to bidders, on application to the Chief Quartermaster on Governor's Island, New York Harbor, the Depot Quartermasters at Washington, Baltimore, Philadelphia, and Boston, the Post Quartermaster at Fort Monroe, Virginia, and at this office. Bids are also invited for the work on the basis of supplying out-board condenser, 6-inch, No. 8 copper, or ¼ brass. Also on the basis of the Government supplying the circulating and air pump, and a condenser of one-half the required capacity, the contractor furnishing the other half and making all connections. In either case, if award is made thereon, the specifications will be changed accordingly. The right is reserved, on the part of the United States, to reject any or all bids. Proposals should be indorsed "Proposals for Construction of Steam Propeller," and addressed to the undersigned. HENRY C. HODGES,

Deputy Quartermaster-General, United States Army.

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PROPOSALS.

INSTITUTE BUILDING.

[At Waterville, Me.]

WATERVILLE, ME., February 10, 1883.

The undersigned building committee will receive sealed proposals for a three-st'y brick building on the lot in Waterville known as the Waterville classical institute lot; the contractors are to furnish all labor and material; the proposals may be for the whole combined, or for the mason-work and carpenter-work separately; proposals will also be received for the amount the contractors will give for the brick building now on said lot, the same to be removed; the plans and specifications may be seen at the office of E. F. Webb, at Waterville, or at the office of Fassett & Stevens, architects, Portland, and proposals may be directed to the committee at Waterville, Me.; the committee reserve the right to reject any or all bids; proposals will be opened **on Saturday, March 10, 1883,** at the Elmwood Hotel in Waterville, at 11 o'clock, A. M.

EDMUND F. WEBB, MOSES GIDDINGS, JOSEPH RICKER. } Building Committee.

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SCHOOL-HOUSE.

[At Philadelphia, Pa.]

Sealed proposals, indorsed "Proposals for Building a Public School-House on the Northwest corner of Nineteenth and Reed Streets, in the Twenty-sixth Ward" will be received by the Committee on Property of the Board of Public Education, at the office of the Board, No. 713 Filbert Street, **on Saturday, March 3, 1883, at two o'clock,** P. M., for the erection of a public school-house on a lot of ground situate on the northwest corner of Nineteenth and Reed Streets in the Twenty-sixth Ward, at which time said proposals will be opened by the Committee on Property.

Said school-house to be built in accordance with the plans and specifications of L. H. Esler, Architect and Superintendent of School Buildings, to be seen at the office of the Board of Public Education.

No bids will be considered unless accompanied by a certificate from the City Solicitor that the provisions of an ordinance, approved May 25, 1860, have been complied with.

The Committee reserve the right to reject any or all bids not deemed satisfactory.

By order of the Committee on Property.

374 M. W. HALLIWELL, Secretary.

IRON-WORK.

[At Boston, Mass.]

OFFICE OF SUPERVISING ARCHITECT, TREASURY DEPARTMENT, WASHINGTON, D. C., February 8, 1883.

Sealed proposals will be received at this office **until 12 M., on the 28th day of February, 1883,** for furnishing and fixing in place complete in the post-office and sub-treasury extension-building at Boston, Mass., the iron-work of post-office screens, stairways, railings, floor-lights, in accordance with drawings and specification, copies of which and any additional information may be had on application at this office or the office of the superintendent.

374 JAS. G. HILL, Supervising Architect.

MOVABLE DAM.

[At Louisville, Ky.]

U. S. ENGINEER OFFICE, 82 WEST THIRD ST., CINCINNATI, O., January 12, 1883.

Sealed proposals in duplicate will be received at this office, **until 12 o'clock, noon, on Thursday, the 1st day of March, 1883,** for the construction of the parts necessary for 200 feet of movable dam, and the delivery of the same at Louisville, Ky.

Approximate quantities: Wrought-iron, 28,000 pounds; cast-iron, 2,500 pounds; malleable-iron, 850 pounds; dressed white-pine, 1,260 feet, B. M.; dressed white-oak, 400 feet, B. M.

Specifications and all necessary information can be obtained by application to the undersigned.

374 WM. F. MERRILL, Major of Engineers.

DAM.

[At Louisville, Ky.]

U. S. ENGINEER OFFICE, 82 WEST THIRD ST., CINCINNATI, O., January 12, 1883.

Sealed proposals, in duplicate, will be received at this office **until 12 o'clock, noon, on Thursday, the 1st day of March, 1883,** for the construction of the parts necessary for 200 ft. of movable dam, and the delivery of the same at Louisville, Ky.

Approximate quantities: wrought-iron, 28,000 lbs.; cast-iron, 2,500 lbs.; malleable iron, 850 lbs.; dressed white-pine, 1,260 feet B. M.; dressed white-oak, 400 feet, B. M.

Specifications and all necessary information can be obtained by application to the undersigned.

374 WM. F. MERRILL, Maj. of Engineers.

COURT-HOUSE.

[At Caledonia, Minn.]

Sealed proposals will be received by the Building Committee of the County Commissioners of Houston County, Minnesota, **until March 21, 1883,** at the office of the Auditor in Caledonia, for the construction of a stone Court-House for said County, according to plans and specifications of same now on file at the Auditor's Office, and at the office of the architects, C. G. Maybury & Son, Winona, Minn., who will give any further information desired. No bids will be received except for the whole building complete as specified. The successful bidder will be required to give bonds in the sum of $5,000. The right to reject any and all bids is reserved. By order of Building Committee.

376 E. K. BOVERUD, County Auditor.

COAL-POCKET PIER.

[At Providence, R. I.]

SUPERINTENDENT'S OFFICE, PROVIDENCE, R. I., February 15, 1883.

Bids will be received **until Thursday noon, March 1st, 1883,** for the building of a new coal-pocket pier in East Providence, with storage capacity of 10,000 tons, in addition to the one already contracted for. Plans and specifications can be seen at the office of John W. Ellis, Engineer, Woonsocket.

The company reserves the right to reject any and all bids. W. E. CHAMBERLAIN,

374 Superintendent.